

Servitisation to deploy energy efficiency: As a Service models in the European environment

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Moderators

EaaS Project Leads



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Expert Circular
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Energy at EIT InnoEnergy

Servitisation to deploy energy efficiency: As a Service models in the European environment

Speaker

Iain McKechnie
Director of Strategic
Programmes The
Advanced Services Group



Servitization to deploy energy efficiency:
As a service models in the European environment

What is **Servitization**?

8th July 2021 (15:30 CET)

(for external use)

Prepared and presented by Iain McKechnie
080721

Director of Strategic Programmes
Advanced Services Group,
Aston Business School, UK





1. My role, ASG and why it's my pleasure to be an Advisory Board Member for EaaS
2. What is Servitization?
3. Some of the areas where you see it applied / the market trend-growth on Servitization.
4. How it can help accelerate the implementation to energy efficiency?

THE ADVANCED SERVICES GROUP

The servitization centre of excellence at Aston
Business School



Aston Business School

THE
ADVANCED
SERVICES
GROUP



RESEARCH

PROGRAMMES

PARTNERSHIP

ADVISORY

ABOUT THE ADVANCED SERVICES GROUP

A centre of excellence
at Aston Business School, Aston University

Focused exclusively on
servitization and advanced services

Providing education,
training, research and a global network of
like-minded professionals

Helping global manufacturers
and technology innovators to develop
services-led strategies



www.servitizationlive.com 4th to 6th October 2021. In-person Event - ICC, Birmingham, UK

SERVITIZATION
LIVE

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SERVITIZATION LIVE



in

Everything as a Service

THE
ADVANCED
SERVICES
GROUP



4-6 Oct 2021

VIRTUAL BUSINESS EVENT

Register

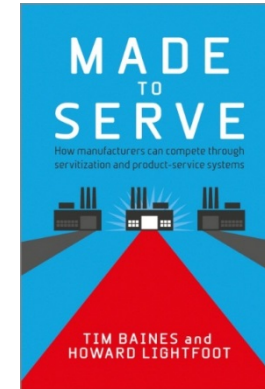
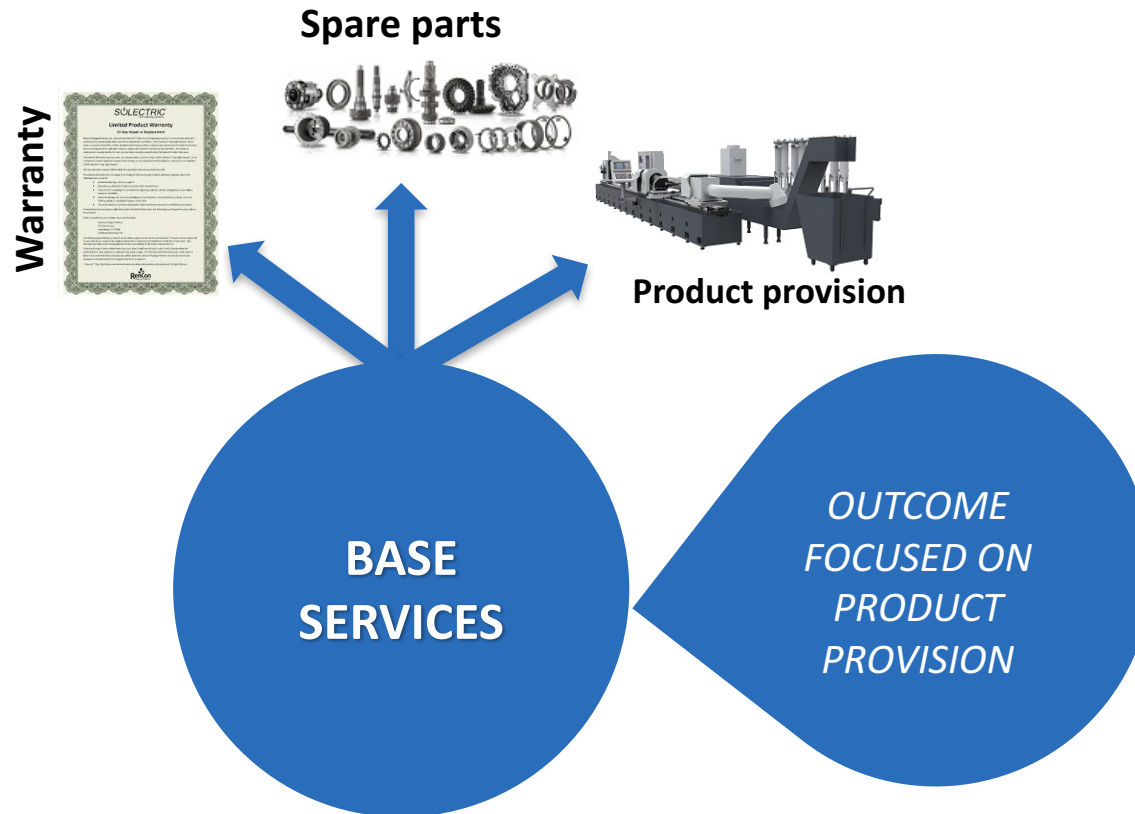


When manufacturers start to investigate adding services to support their products, the services tend to fall into 3 broad categories: base; intermediate and advanced.

Services Supporting Customers

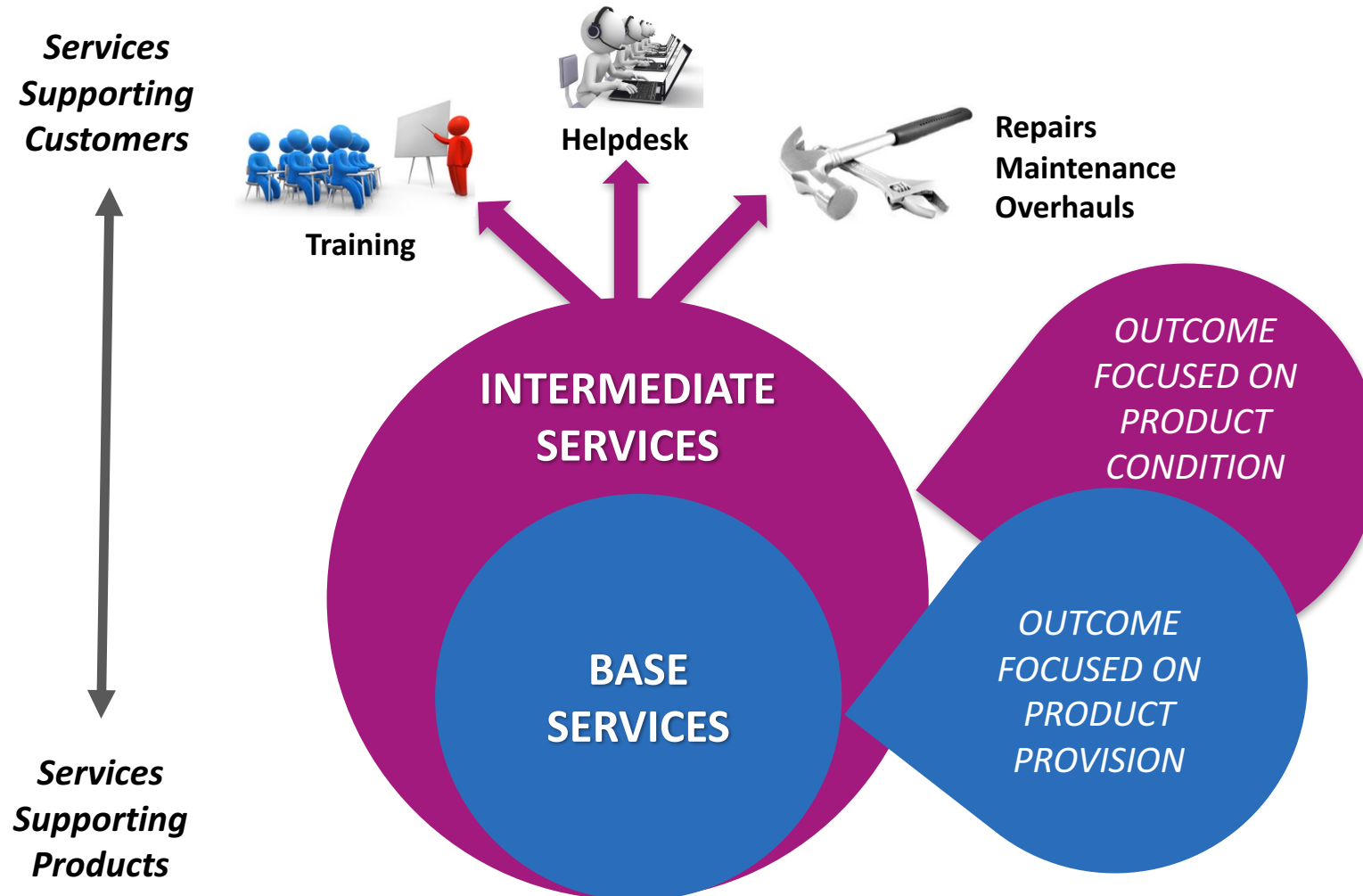


Services Supporting Products



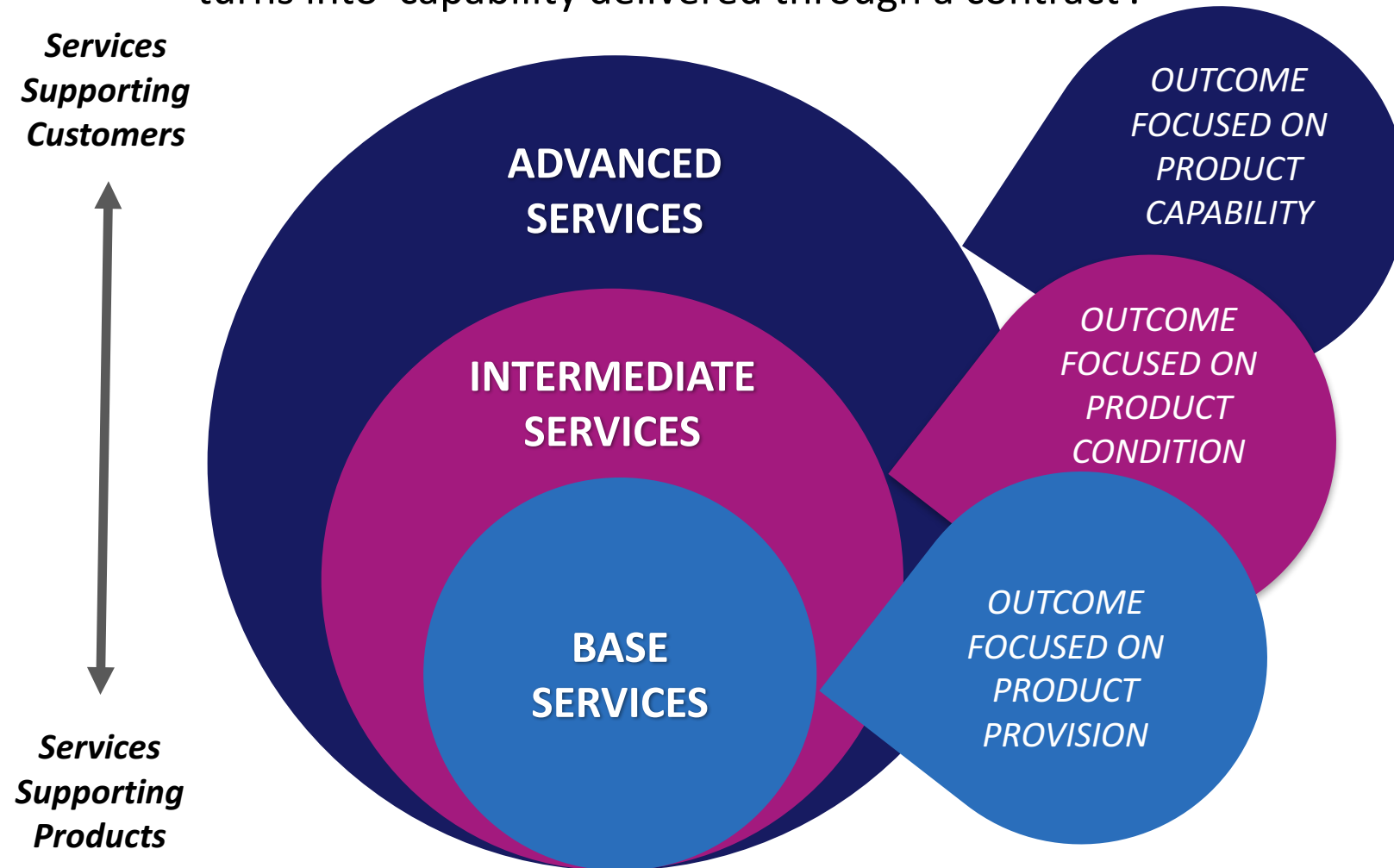


With each step taking them closer to the customer.





Until they reach a point where ‘a sales transaction’ turns into ‘capability delivered through a contract’.

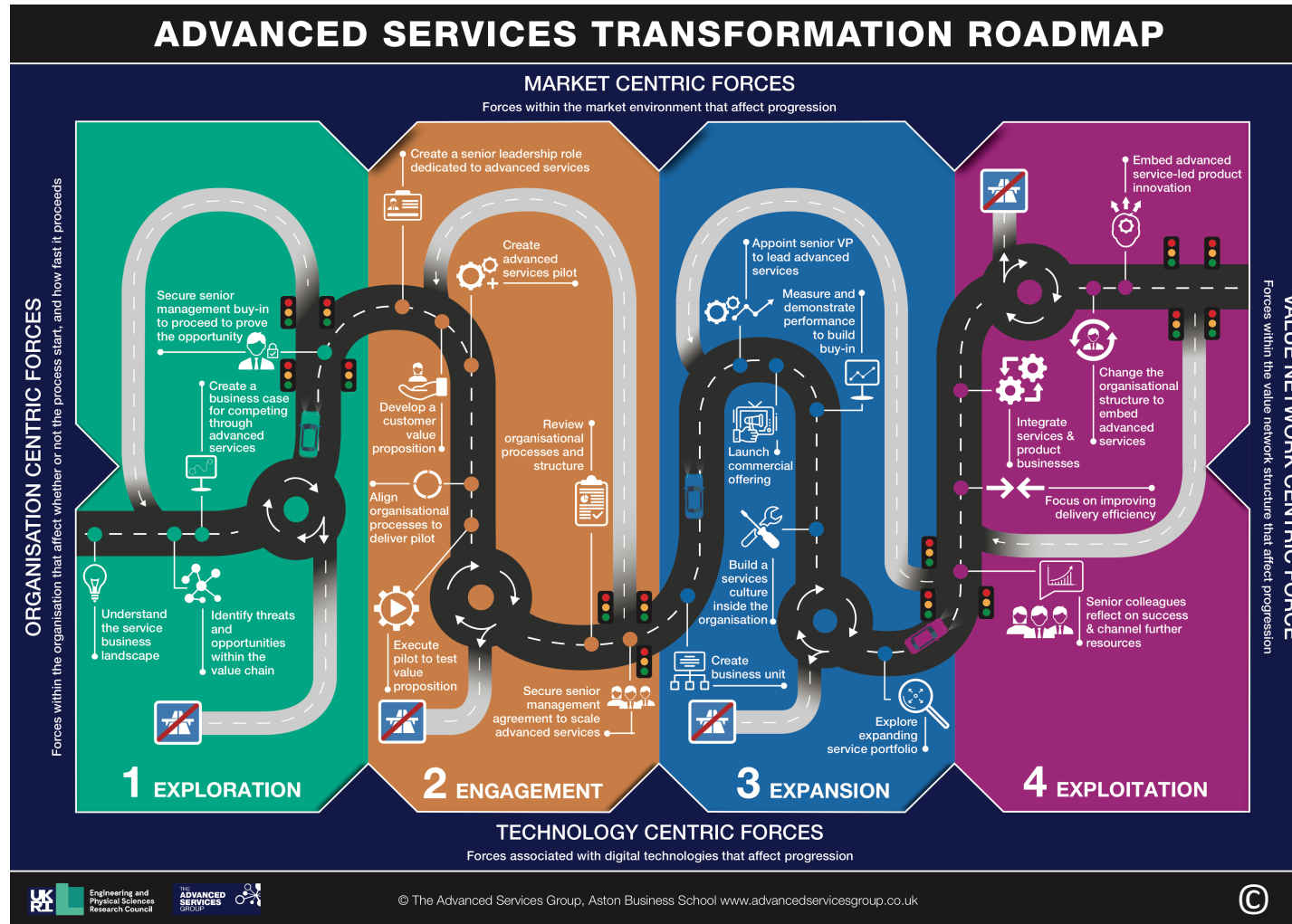




Biggest problem – knowing where to start!



The Advanced Services Group's 'Transformation Roadmap', shown below, is the framework we use to help manufacturers understand the journey they are about to embark upon.





The 4 Elements of the Business Model:

1

Help manufacturers, of all sizes and geographies, to create new value with their customers based upon the provision of an outcome or capability.



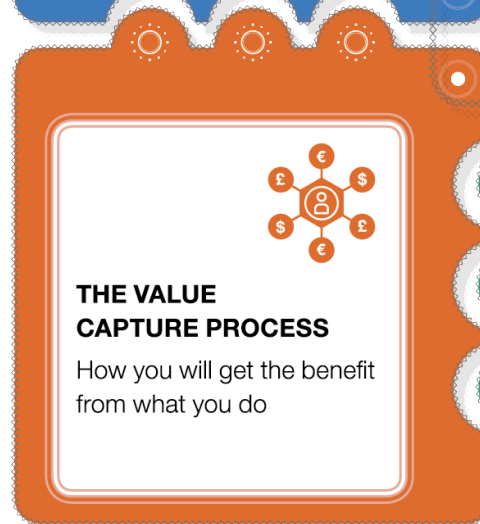
2

Help manufacturers to understand how to provide 'advanced services' to support their products in use.



3

Help manufacturers, to apply the best revenue model to ensure they get paid in the most appropriate way for the new value being delivered.



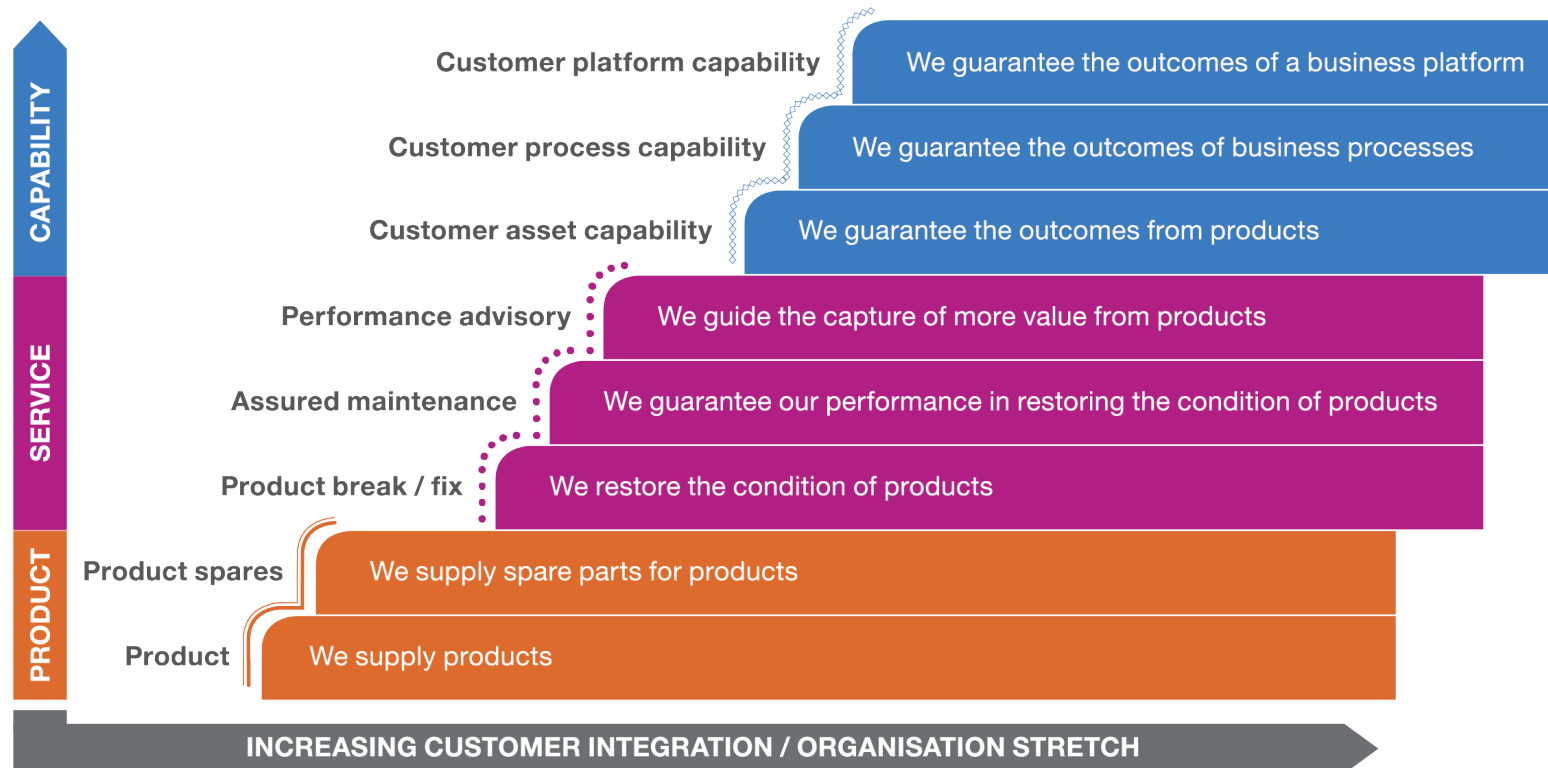
4

Help the manufacturer to improve their competitive advantage and their relationship with their customers.





We help manufacturing firms to move from being product-led firms to services-led firms by working with them on their business model, their value propositions, their revenue models and their value delivery systems. In doing so, we increase the value created by the manufacturer and the benefits to the customer - which has a positive effect on their revenues and margins. The Advanced Services Group's 'Services Staircase', shown below, is the model we use to identify potential value & competitive advantage.





The five megatrends studied are:

1. Health and Aging: The aging society and increasing importance of healthy living and lifestyle
2. **Green and resource scarcity**: The increasing demand for **environmentally friendly products and services**
3. Value change towards transparency, diversity, individualization and freedom of choice, as well as demand for meaning and connectedness
4. Inequality and Social Exclusion: The increasing market share of poor customers, the demand for 'frugal innovations' and 'micro-provision
5. Globalization and the need for community: The increasing emphasis on communities, localities, etc. to foster identity in a globalized world





Energy-related Case Studies...



Nederman

Filtration - Clean Air



Alstom Transport

Energy Saving



Caterpillar

Fuel Burn & Idle Time



KONE

Improved Equipment Efficiency



Orica Mining Services

Utilise Energy
More Efficiently



Goodyear

Fuel Reduction
& Carbon Emissions



Servitization Applied

An insight into small and medium-sized businesses innovating their services strategies

01—30

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01—30

1 AE Aerospace Ltd —

"The Advanced Services Group behind the programme is rare in that it understands and can relate to businesses. Academic research needs to be applicable to commercial results and the Advanced Services Group at Aston Business School has the ability to achieve this."

Aerospace = 'Glass Factory'

2 Central Scanning Ltd —

CS = 3D scans

14 Koolmill Ltd —

"The programme has reinforced my belief that the way forward for Koolmill is through the servitization of the business. The challenge is how to finance the transformation to allow Koolmill to scale up its offer to our customers."

Food = 'NGRM'

25 Tactile Technology Ltd —

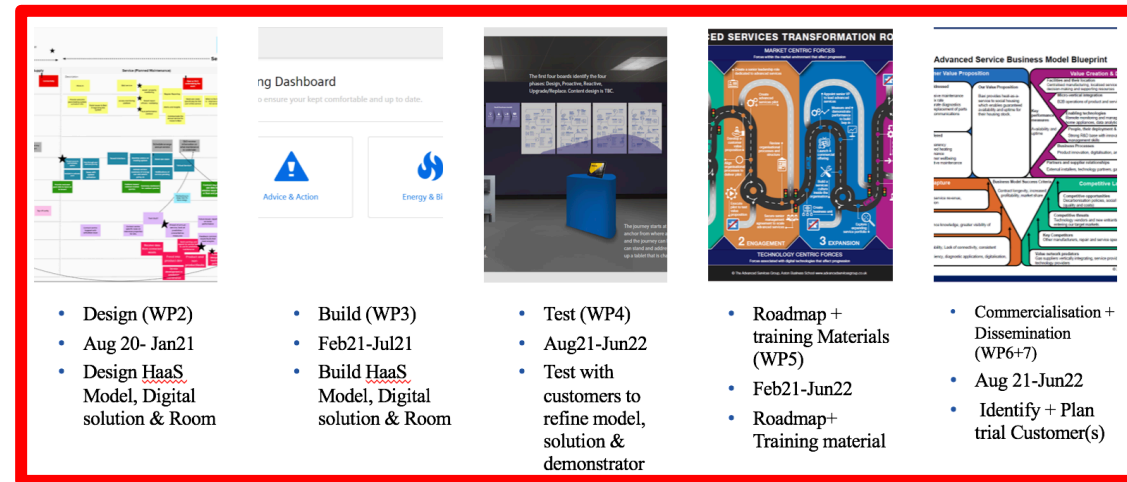
TT = Cloud Services



**UK Government
MMS - Project
#40693**

£1.7m (€2m)


**August 2020
to
June 2022**





CREATING COMPELLING STORIES OF SERVICITIZATION:
A process to help engage stakeholders with change

Creating compelling Stories of Servitization



SERVITIZATION CONTRACTS:
Identifying framing and contracts for advanced services

Servitization Contracts



EXPERIENCING SERVICITIZATION:
What to expect as the transformation journey unfolds

Experiencing Servitization



CUSTOMER VALUE PROPOSITIONS FOR SERVICITIZATION:
A mini-guide for manufacturers seeking to compete through advanced services

Customer Value Propositions for Servitization



PERFORMANCE ADVISORY SERVICES:
A pathway to creating value through digital technologies and servitization

Performance Advisory Services



ADVANCED SERVICE BUSINESS MODELS:
Understanding their structure and bases for competitive advantage

Advanced Service Business Models



Servitization Applied

01—30

An insight into small and medium-sized businesses innovating their services strategies




SERVITIZATION VISIONING:
How to create an illustrative vision for a manufacturing organisation seeking to compete through services

Servitization Visioning




CUSTOMER SEGMENTATION FOR SERVICITIZATION:
How to identify customer groups for service innovation

Customer Segmentation



CUSTOMER SEGMENTATION FOR SERVICITIZATION:
How to identify customer groups for service innovation

Customer Segmentation



ENGINEERING DESIGN FOR SERVICES:
How to ensure that products are designed to support servitization

HOW TO ENGAGE WITH THE ADVANCED SERVICES GROUP

1

Sign up
& downloads

2

Miniguides

3

Masterclass

4

Advanced
Services
Partnership

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Session 1

Perspectives from Technology Providers



Eduardo Moreira
Global Services
Director at Signify



Alix Weil
Product Manager &
Sustainable Energy
Engineer at Delta-EE



**Tomas Sanz
De Santa Maria**
Project Director
at GreenYellow

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Speaker

Eduardo Moreira
Global Services
Director at Signify





Turning CapEx into OpEx to generate free cash flow. How can Light as a Service can help you?

Servitisation and as a service models for intelligent lighting
Efficiency as a Service (EaaS) Virtual Dialog

Eduardo Moreira, July 8th

Our purpose is to unlock the
extraordinary potential of light for
brighter lives and a better world

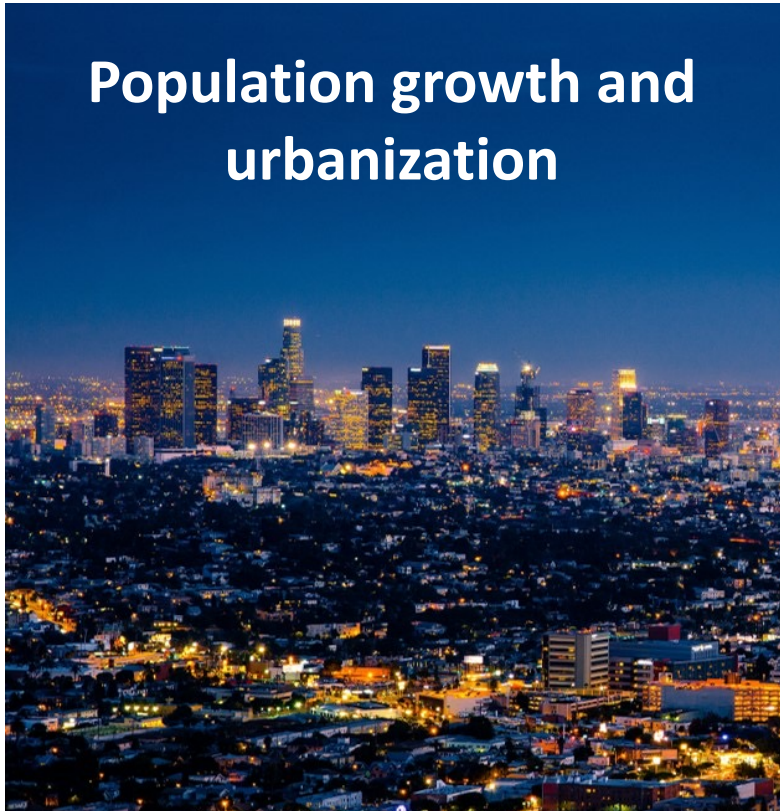
Signify, the world leader in lighting

- 100% Carbon Neutral Company
- Our goal is to DOUBLE our positive impact on the environment and society
- We employ 37,000 people in 74 countries
- Ours sales in 2020 hit €6.5B ~75% professional
- We are #1 in conventional, LED and connected lighting systems and services
- Industry Leader in our category in the Dow Jones Sustainability Index (2017, 2018, 2019)



Our world is changing

**Population growth and
urbanization**



More demand for light

Resource challenges



**More energy-efficient
lighting**

**Digitization
Connectivity**



More connected lighting

Imagine...
managing your
facility remotely

Imagine...
minimizing the
energy consumption

Imagine...
citizens feeling safely
and welcome

Imagine...
improving your
productivity



GREAT, but

- I have little time to organize a lighting upgrade
- I'll have a hard time to justify the investment
- I hate surprises and don't want to take risk



We've got you covered with our Light as a Service offers

At Signify we offer an end-to-end approach including design, build, operation and maintenance of the lighting installation.

Together we will focus on optimizing your business.

Easy to experience, end-to-end solutions ranging from design and build to operate and maintain, **with guaranteed performance commitments**

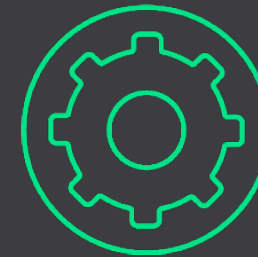
Our advanced lighting systems and services deliver



The best quality light



Significant energy savings

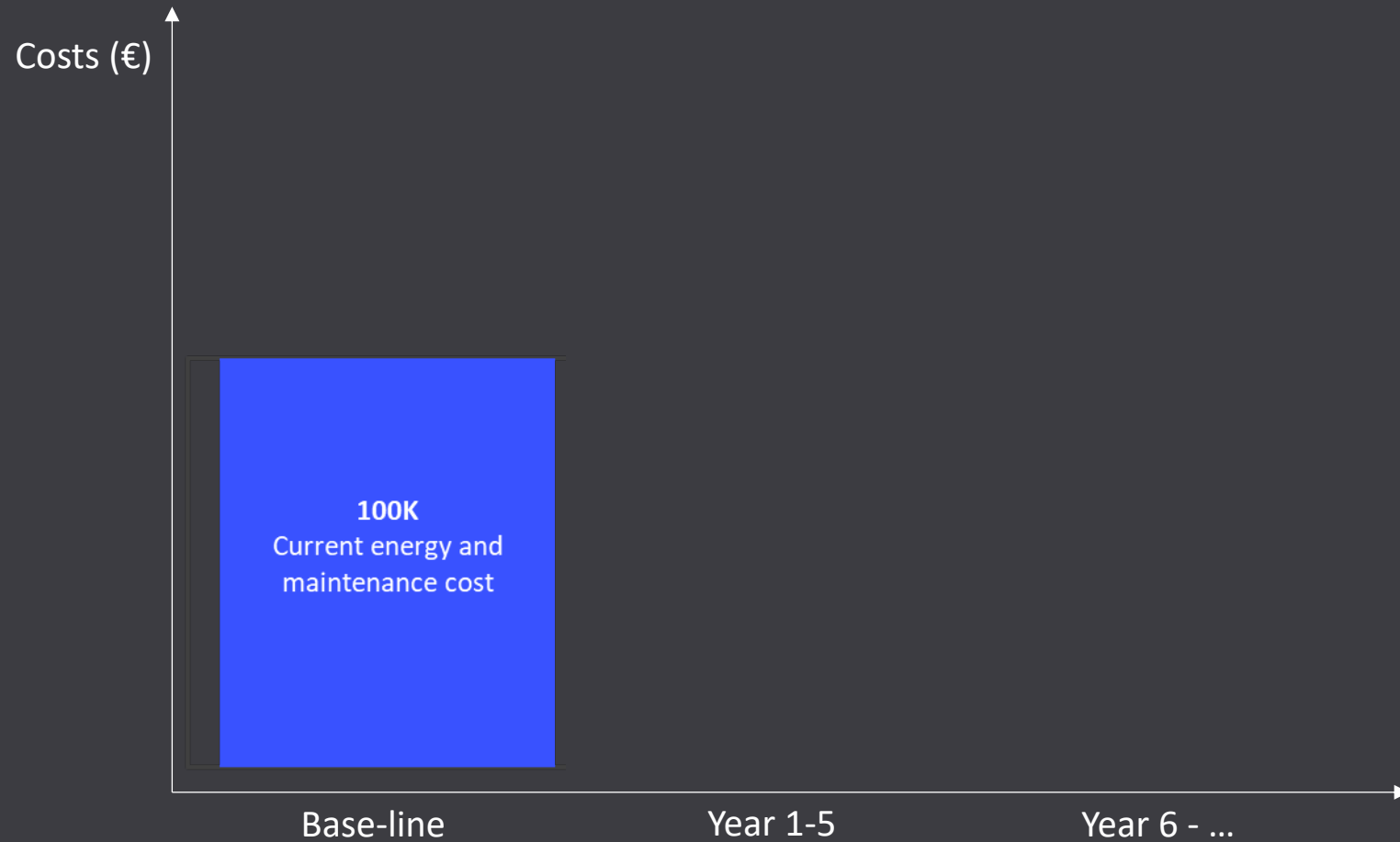


Operational efficiency



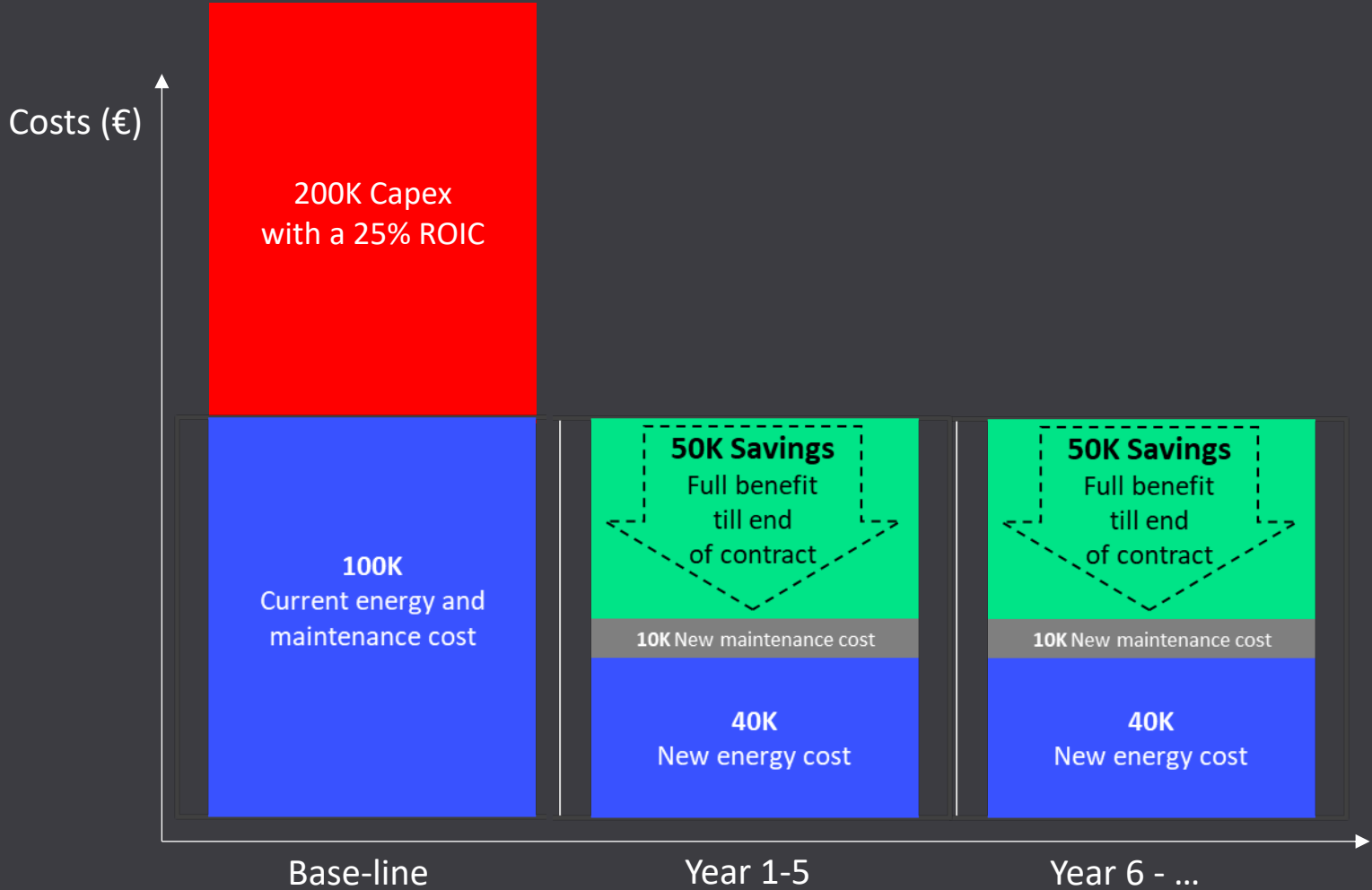
Improved business outcomes

Through Light-as-a-Service, you can turn CapEx into OpEx & generate free cash-flow

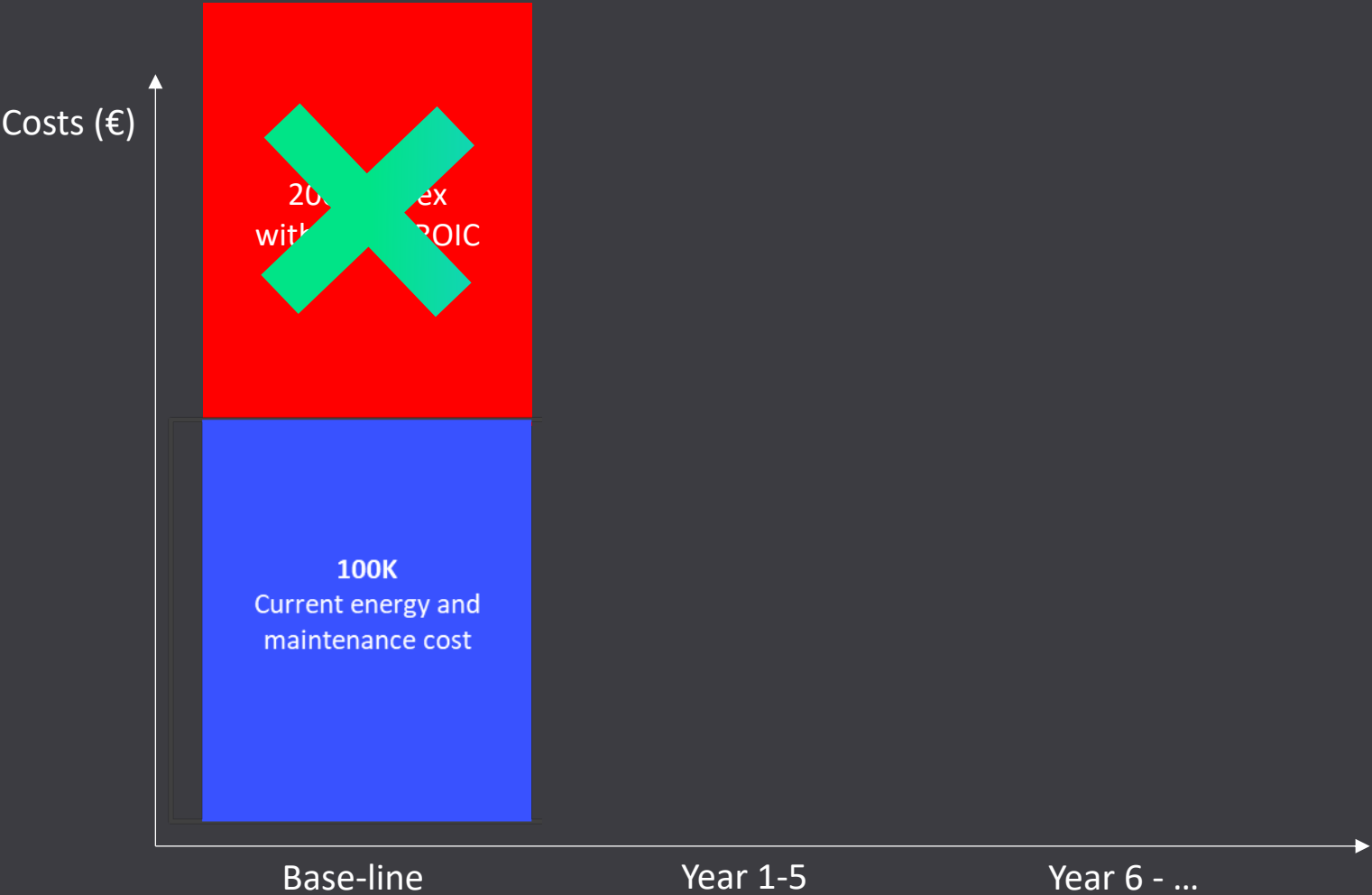


Through Light-as-a-Service, you can turn CapEx into OpEx & generate free cash-flow

Example:
“50K savings per year means a return on Investment of 25% per year.”



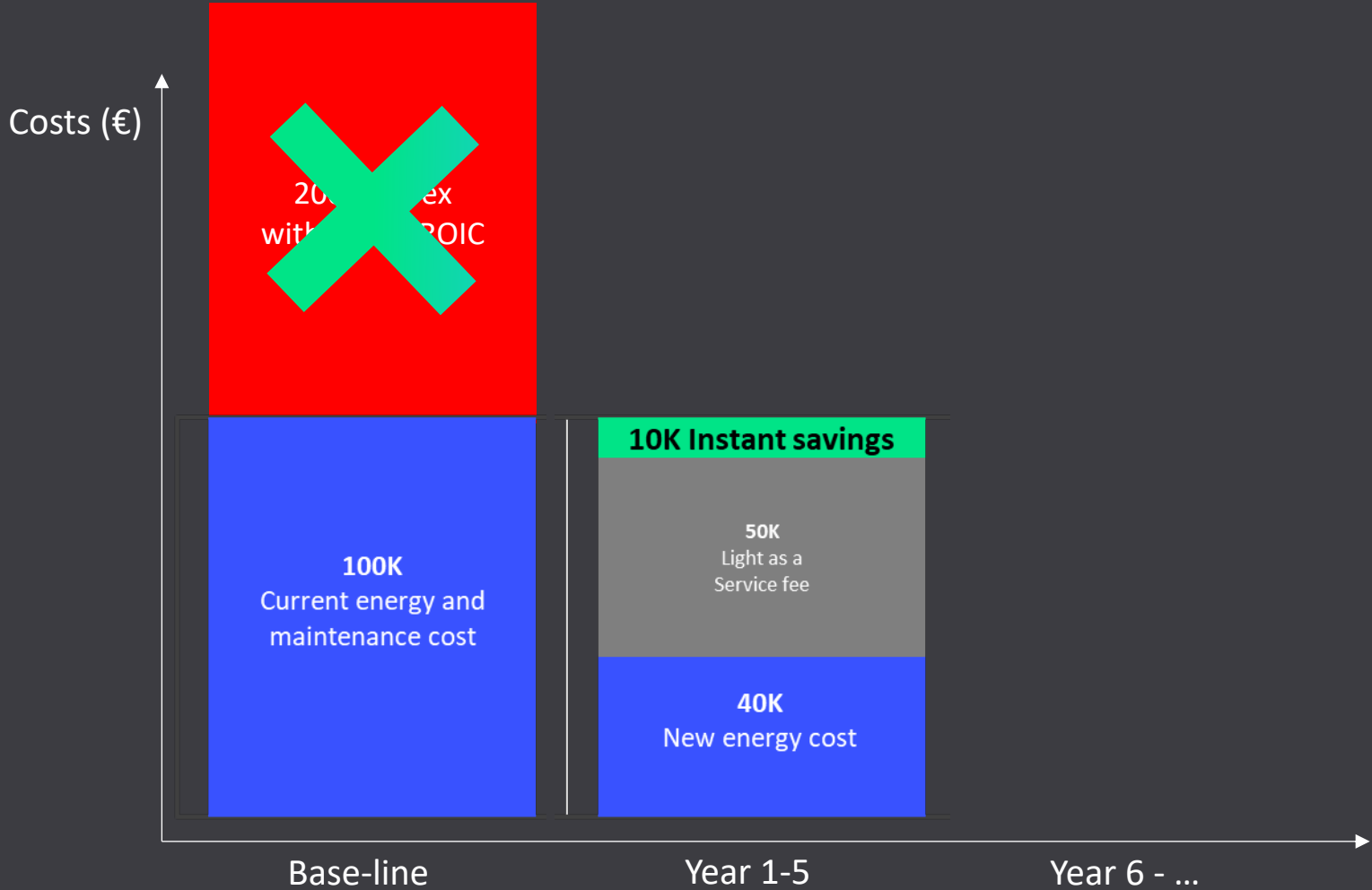
Through Light-as-a-Service, you can turn CapEx into OpEx & generate free cash-flow



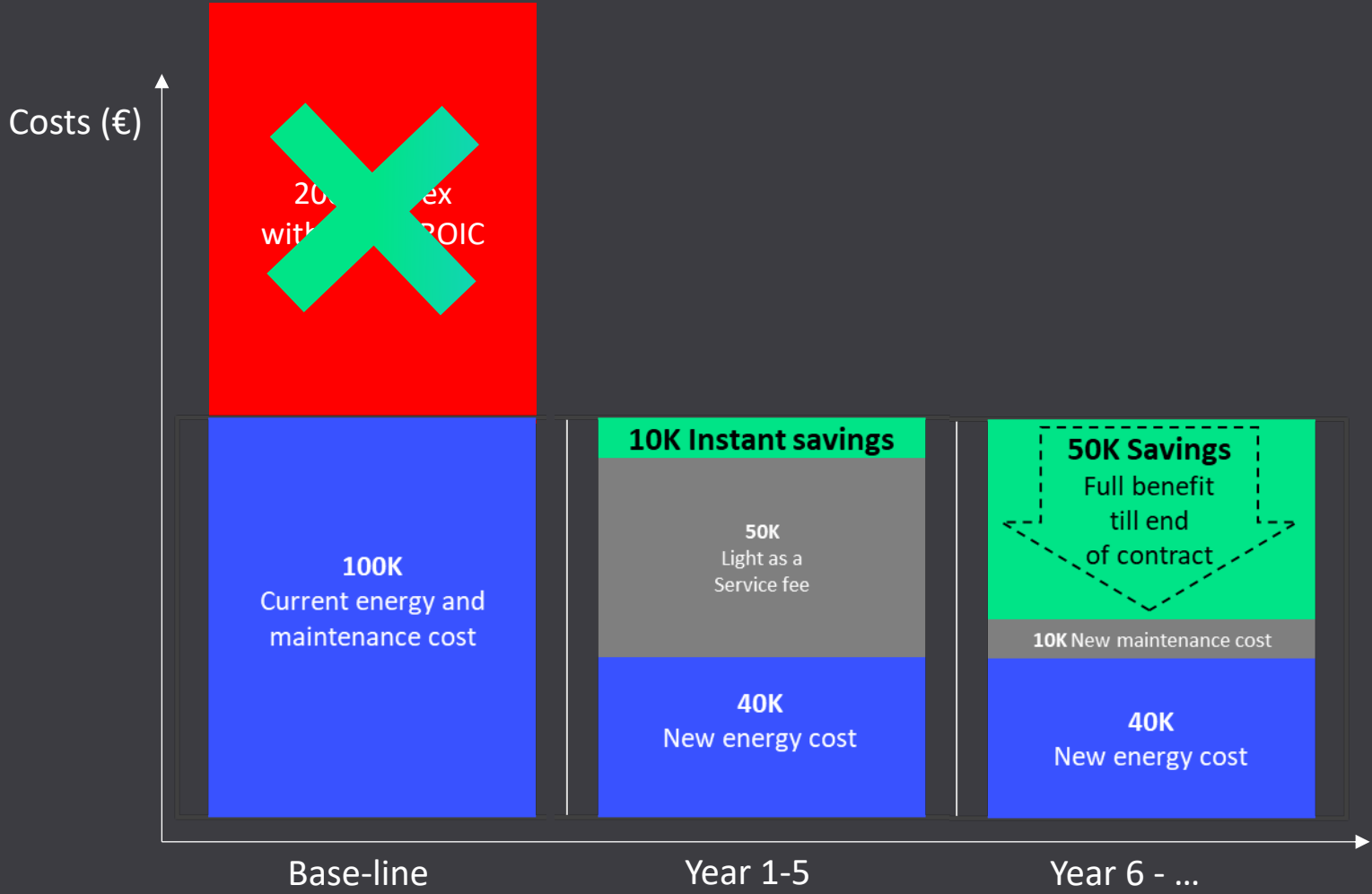
Through Light-as-a-Service, you can turn CapEx into OpEx & generate free cash-flow

Example:

“10K instant annual savings, 50K annual Service Fee during the Service Agreement, and 40K new annual Energy Cost.”



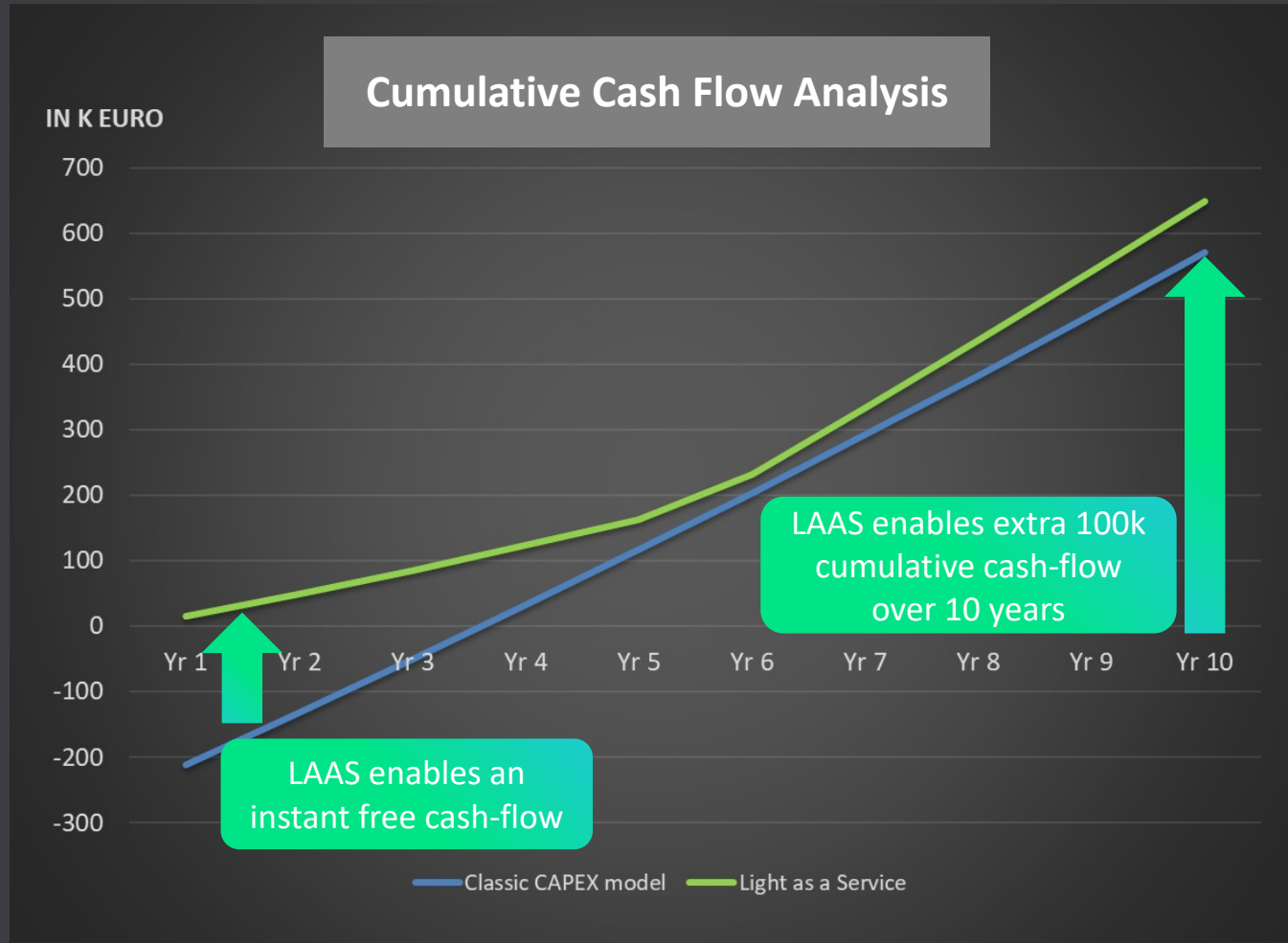
Through Light-as-a-Service, you can turn CapEx into OpEx & generate free cash-flow



Example:

“10K instant annual savings, 10k maintenance cost after the Light as a Service Agreement, and 40K new annual Energy Cost.”

LaaS offers a higher cumulative free cash-flow than a traditional CAPEX approach



- Positive cashflow from day 1
- Free up cash over time
- Improved debt-equity and other financial parameters on your balance sheet
- Hassle-free high-quality lighting
- Guaranteed performance over contract duration

Praxis and Brico stores (Maxeda), Netherlands and Belgium

” Light as a Service is perfect for us. All we do is pay for a service contract for all of our stores. Our program comprises the entire conversion of all our stores, including the removal of old lighting and the installation of new LED luminaires. The maintenance of the lighting is also part of this.”

- Henk Schurink

Constructions and Shop Fixtures
Manager, Praxis

[Find out more](#)



Antwerp Management School, Belgium

Design for eternity. That was one of the ambitious starting points for the renovation and new construction of the Antwerp Management School.

Managing director Geert Vyncke did not want to follow well-trodden paths for the most sustainable building possible. Instead, he chose Circular lighting as part of the solution, demonstrating that this sustainable lighting concept perfectly combines cost savings and comfort.



ArcelorMittal Sagunto, Spain

Signify's collaboration on lighting with the world's leading steel and mining company ArcelorMittal results in beautiful, sustainable LED light.

Delivered through our hassle-free Light-as-a-Service offering, it helps to promote worker comfort and delivers a safer, better lit environment for all the works and collaborators of this important industrial plant in Sagunto, Spain



High Tech Campus Eindhoven, Netherlands

Taking on board the campus' eco-friendly approach, we rolled out the circular lighting service in all of their parking garages.

With Signify retaining responsibility for maintenance of the new lighting, the High Tech Campus management team was able to focus their time elsewhere. On top of this, our circular lighting service delivered a 70% saving on energy consumption across the parking garages.

We also provided the campus with the option of updating luminaires as the latest technology becomes available, resulting in a fully future-proof system



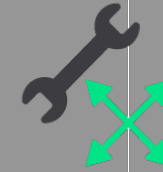


A lighting solution that fits your business needs, our capabilities:

Global presence
and local experience
delivering multi-tiered
support



World-class innovation
capabilities and deep
application and system
expertise



One-stop shop:
systems and services
across the lighting
value chain



Proven record of quality and
reliability – no unpleasant
surprises



If you have any questions or require further information, feel free to reach out and connect:

Eduardo Moreira

Global Services Director

eduardo.moreira.neto@signify.com

www.linkedin.com/in/eduardocmoreiraneto/

www.signify.com

©signify



What are the typical challenges?

1. Procurement process

- Procuring a service is different than procuring a product.
- Focus on a best value (over economical life-time) procurement process

2. Early legal involvement

- Outcome based performance contracts need to be assessed in more details than standard T&C for the purchase of products to secure your benefits over time
- Give your legal department time to go through the proposed agreement

3. Accounting assessment

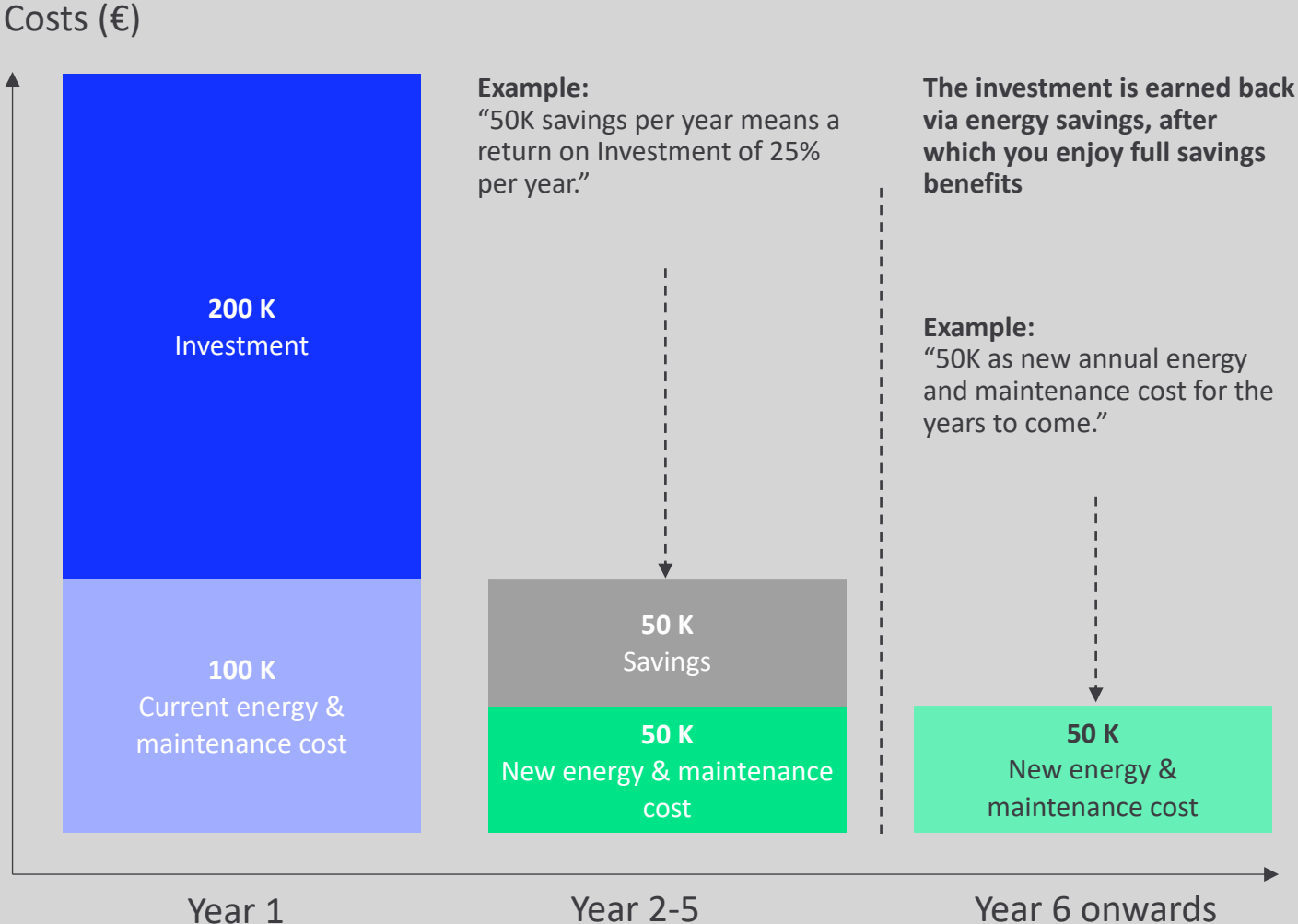
- An off-balance treatment might be possible in the right set-up.
- Involve your technical accounting team to work with legal on the agreement to make it a true service agreement

4. Operational responsibilities

- Define upfront a clear responsibility matrix for your teams and subcontractor
- Engage with 1 partner and avoid grey areas of accountability

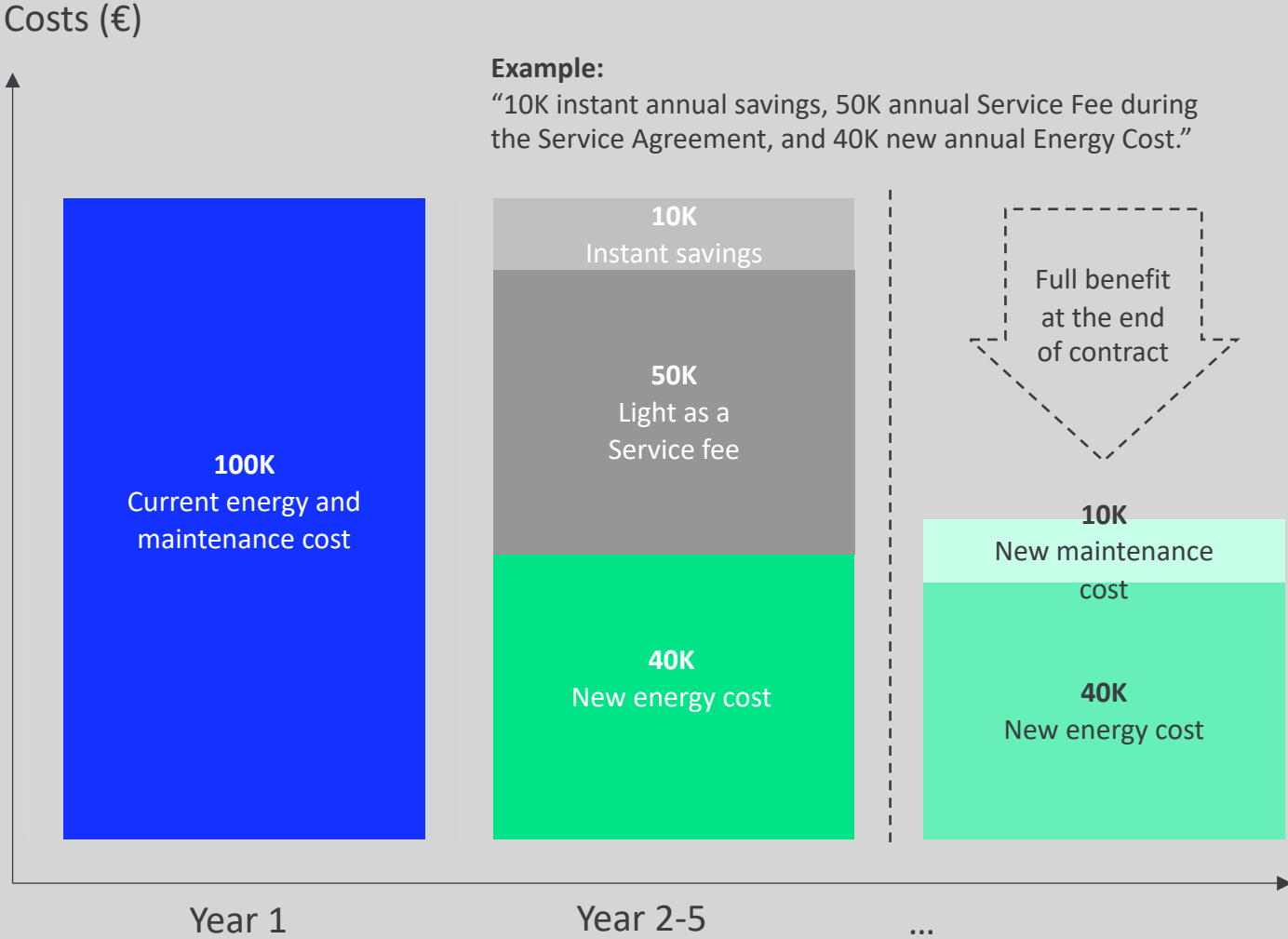
Standard Managed Services

Optimize your energy and maintenance costs to benefit from a solid return on investment.



Light as a Service

No upfront investment while keeping the savings, resulting in positive cash flow from day one.



Best option for instant free cash flow

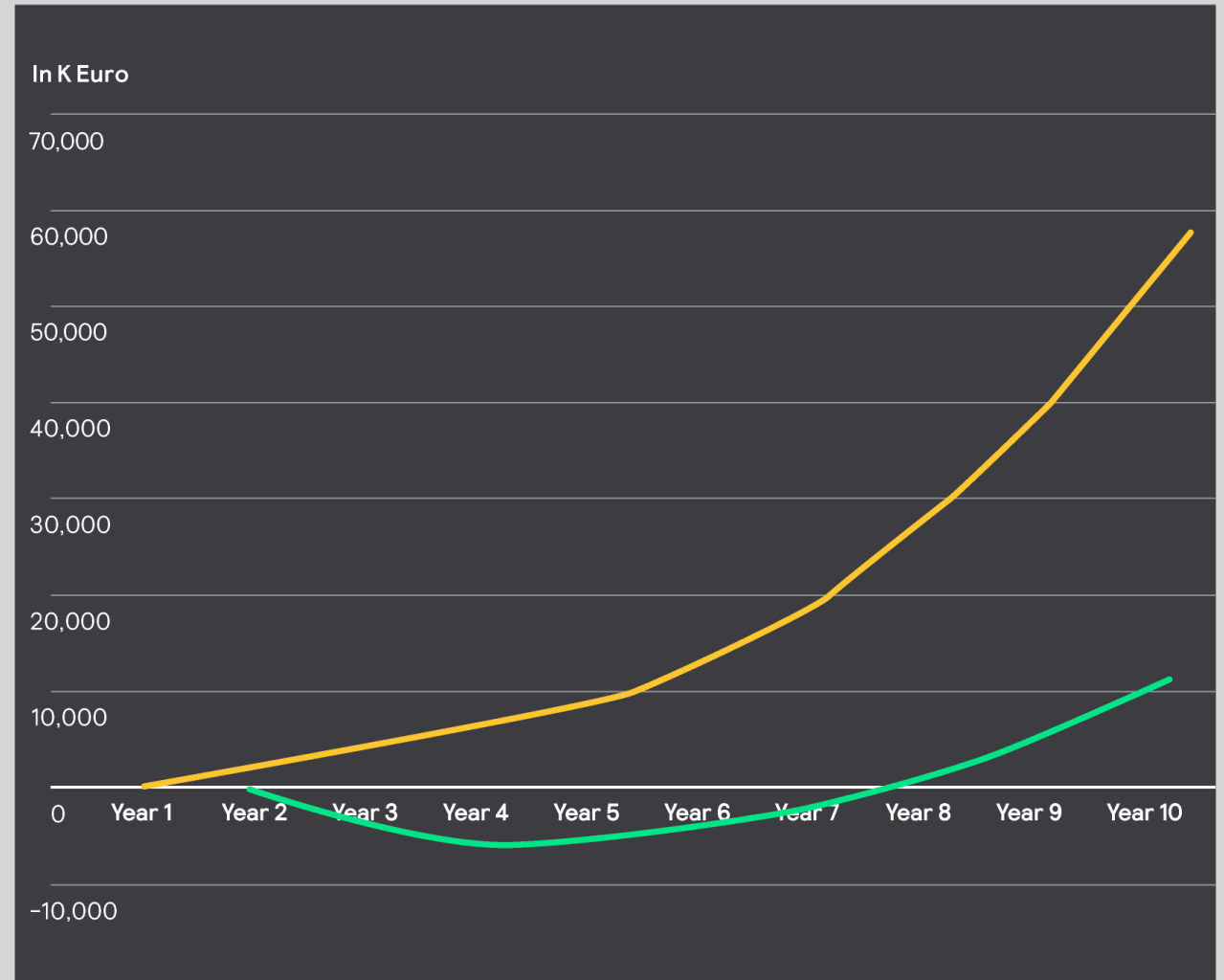
Analysis of an industrial customer roll-out

Do you have multiple sites? We can accelerate the renovation with a factor 3~ 5* whilst boosting your free cash flow

Example:

- 50 medium site production site
- 1 year delay on Capex approval process
- Factor 3 acceleration of renovation
- 5 years' financing

Accelerated Renovation Cumulative Cash flow analysis



■ Classic CAPEX model

■ Light as a Service

What is needed for your facilities to benefit from LaaS?

As a rule of thumb, if you have a facility with:

- 500 light points with conventional technology
- 4000 burning hours per year
- 4~5 years remaining lease period or owned by you
- 0,1 euro/kWhr as energy cost

You will be able to benefit the free cash-flow with LaaS



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Speaker

Alix Weil
Product Manager
& Sustainable Energy
Engineer at Delta-EE



DELTA-EE



HEAT-AS-A-SERVICE

A PRESENTATION BY DELTA-EE

CONTACT
alix.weil@delta-ee.com

About Delta-EE

We enable organisations to develop the best strategies, business models and customer propositions for the energy transition. Our breadth & depth of expertise spans:

New Energy Business Models

Identify and understand the alternative and new business models for the energy transition



EVs & Electricity

Understand the opportunities and challenges from sector coupling between electricity and transport



Flexibility & Energy Storage

Take advantage of the opportunities emerging from an active demand side



Heat

How channel disruption, sector coupling and new technologies are changing the heat sector



Distributed Power

Global market insight & expertise into the growing role of decentralised generation



Digital Energy

Opportunities in the connected home market and how digitalisation is changing the energy customer relationship

Delta-EE provides:

Subscription Research Services

Provided by dedicated research teams that get under the skin of 'new energy' markets in Europe and globally, and understand future market direction.

These Services bring Delta-EE's subscribers deep expertise on all the topics of 'new energy' and access to experts for ongoing support.

Consultancy

Delta-EE's consultancy team provides clients with bespoke confidential research and insight to answer the critical questions which are impacting their business.

Our consultancy leverages knowledge from our Subscription Services to provide tailored support and advice.

Some of our research

Helping you understand how the energy transition is evolving across Europe

Heat

- New opportunities for electrification of heat across Europe
- Heat as a Service
- Heating market in multi-family homes
- Integration with district heating
- Green finance for energy efficiency and low carbon heating

New Energy Business Models

- Net Zero Cities: what are the opportunities for energy companies?
- The State of the New Energy Market in 2021
- New Energy SPACs and IPOs
- Energy as a Service

Digital

- Annual state of the European market
- Connected controls for heat pumps
- Energy insights in self-generation
- Energy insights solutions database
- Energy insights in heat decarbonisation

Local Energy Systems

- What is the role of energy communities in the green transition?
- Opportunities and challenges for microgrids business models
- Value of resilience

Energy Systems: Flexibility & batteries

- Annual state of the Storage and Flexibility markets
- Energy storage for carbon management
- The role of interoperability and embedded connectivity in demand side flexibility
- Integrating DSF into Energy-as-a-Service offerings

Distribution Network

- Integration of renewable energy assets on the distribution network
- Transactive energy
- Flexibility for DSOs

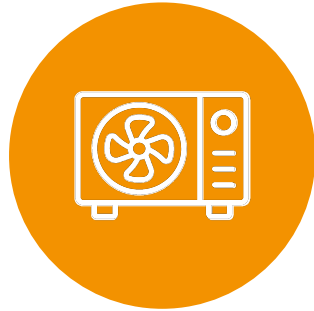
EV charging

- EV charging country reports
- The future directions of commercial charging solutions
- The clash of EV energy solutions: V2G versus stationary storage and smart charging
- Modelling EV energy consumption across charging segments

Hydrogen

- Clean hydrogen production tracker
- Hydrogen application case studies

Distinguishing between heat product-as-a-service and heat outcome-as-a-service



THE HEATING EQUIPMENT

monthly payment rather than upfront
(product-as-a-service)

Contract:

- finance + maintenance
- lease / rental

Connectivity:

- remote monitoring



THE ENERGY USE

selling outcomes rather than inputs
(outcome-as-a-service)

Metering:

- fuel input
- heat output
- warmth outcome

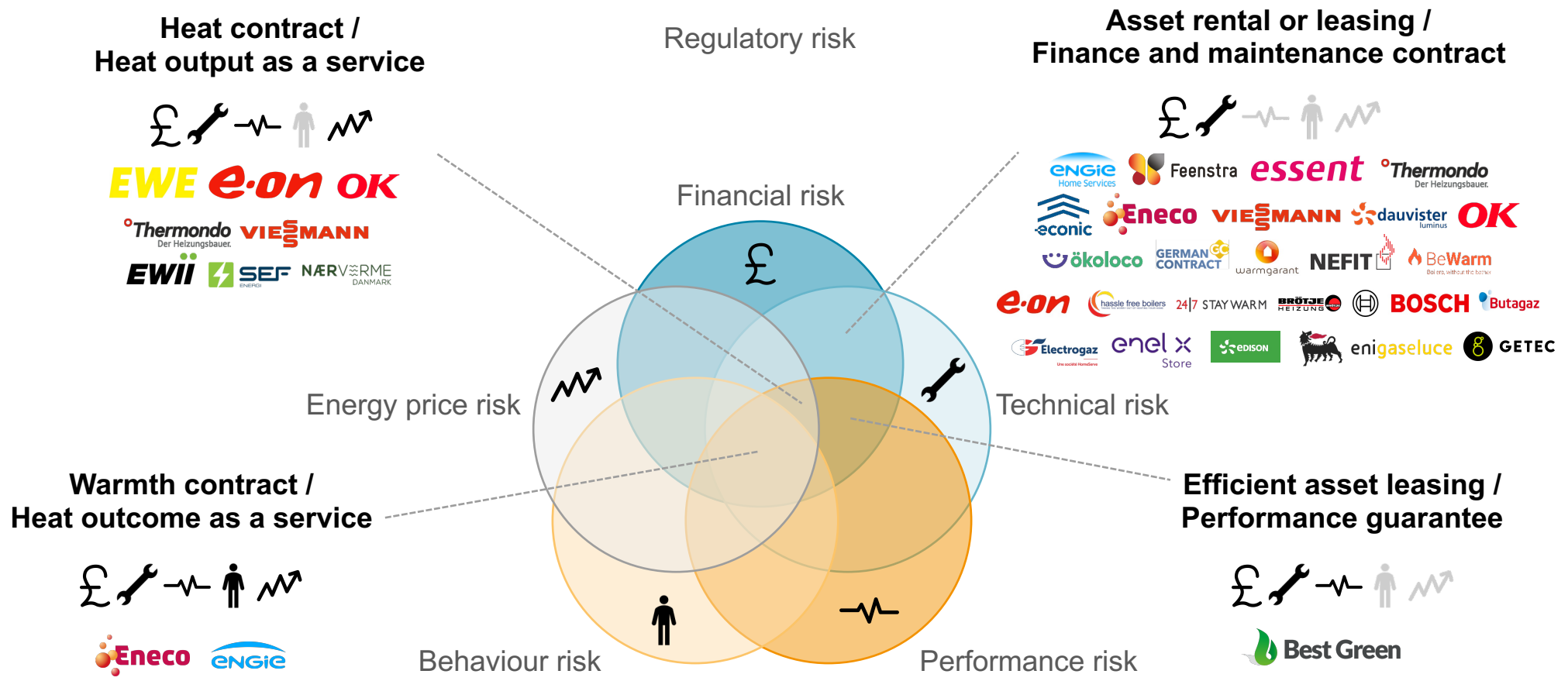
Service level agreement:

- pay-per-use
- subscription (limited or unlimited)

Control:

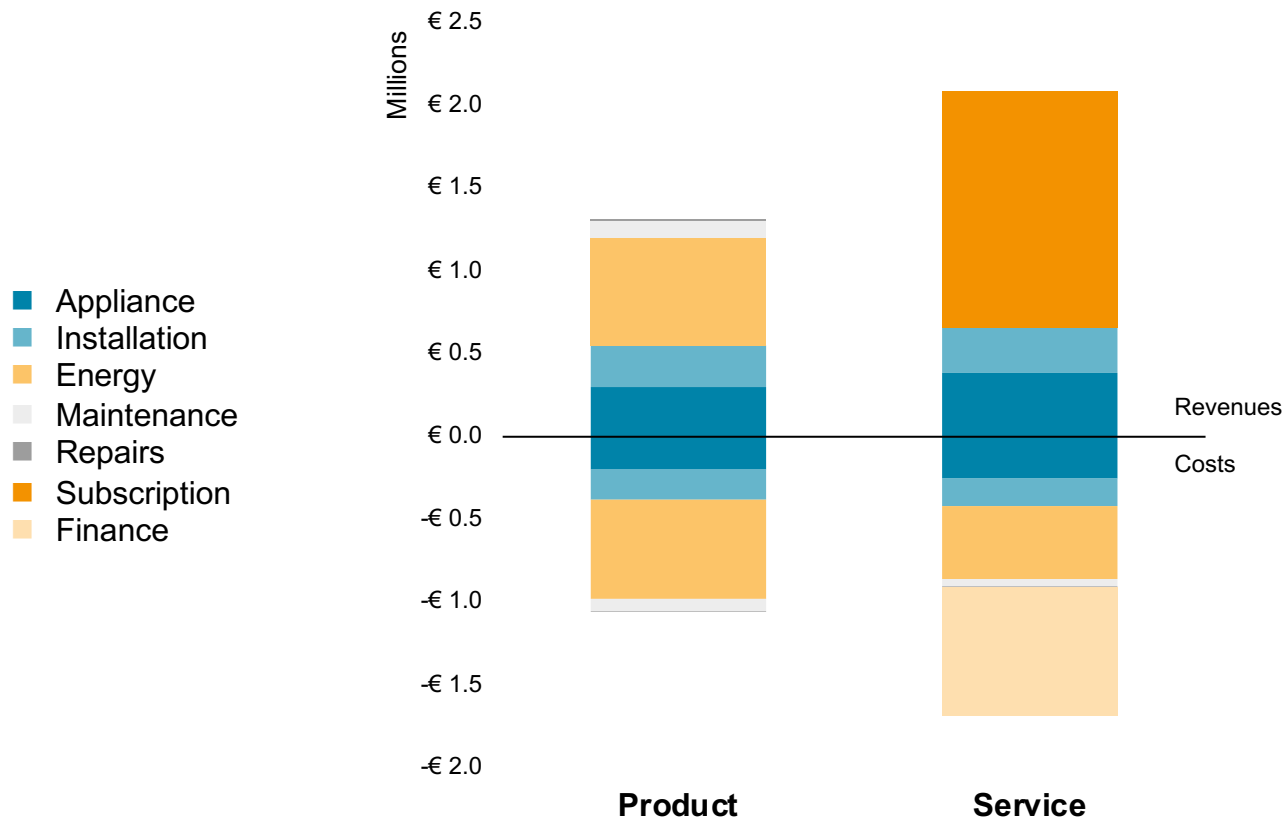
- default
- optimised

Distinguishing between different heat service models using a risks framework



What are the commercial benefits?

Illustrative revenues and costs over 10 years



	Product	Service
Appliances sold	100	110 ▲
Total revenue	€ 1,3m	€ 2m ▲
Total profit	€ 250k	€ 400k ▲
Reduction in energy costs	0%	-30% ▼
Upfront cost to customer	€ 5,500	€ 0 ▼
Monthly cost to customer	± € 64	€ 108 ▲
Total cost to customer	€ 13,120	€ 13,000 ▼

How are companies financing it?

2

1) Retained revenue

2) Equity

Investment funds (e.g. Eonic)

3) Debt

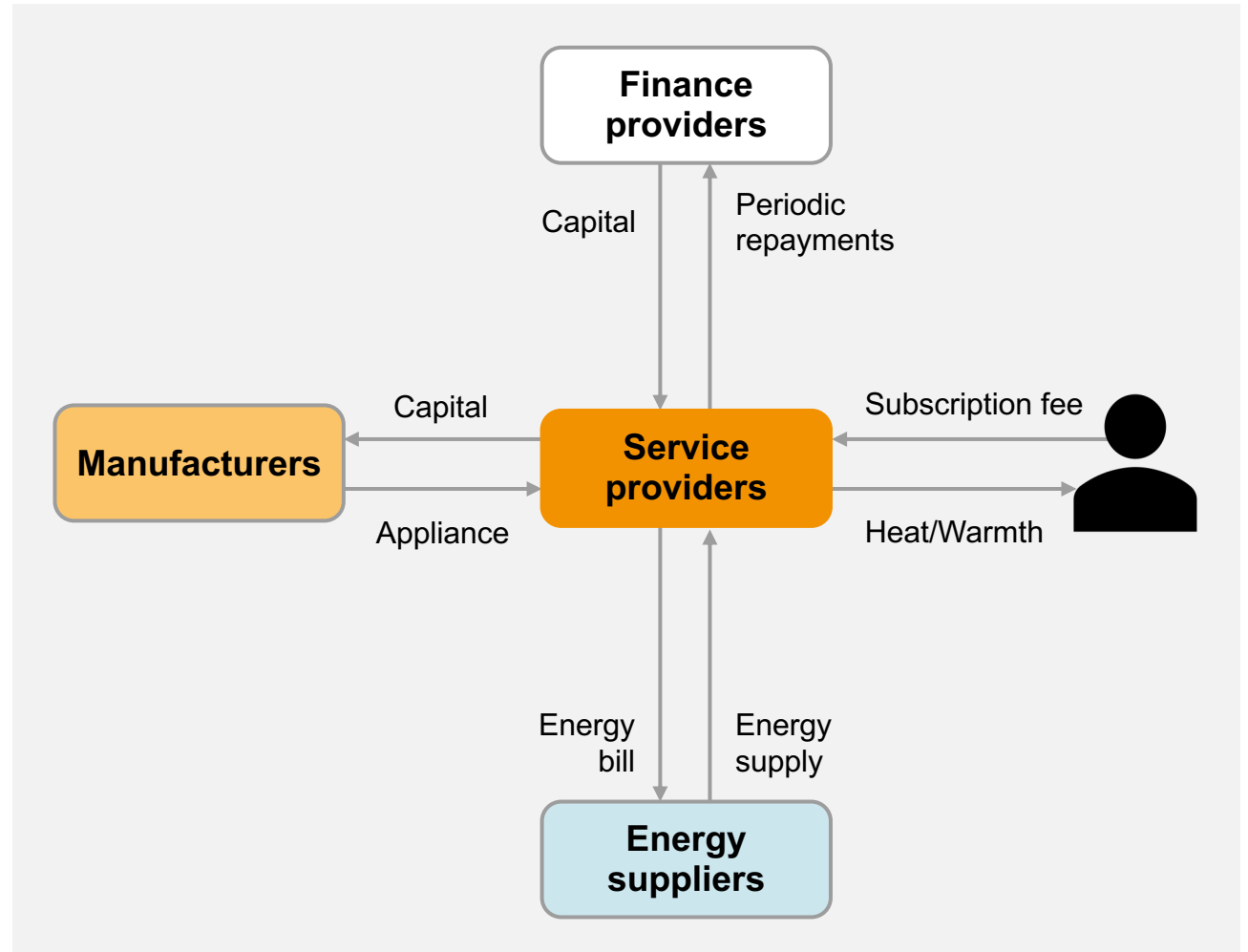
Banks

Leasing companies

- Bank owned (e.g. BNP Paribas)
- Independent
- Manufacturer (e.g. Siemens)

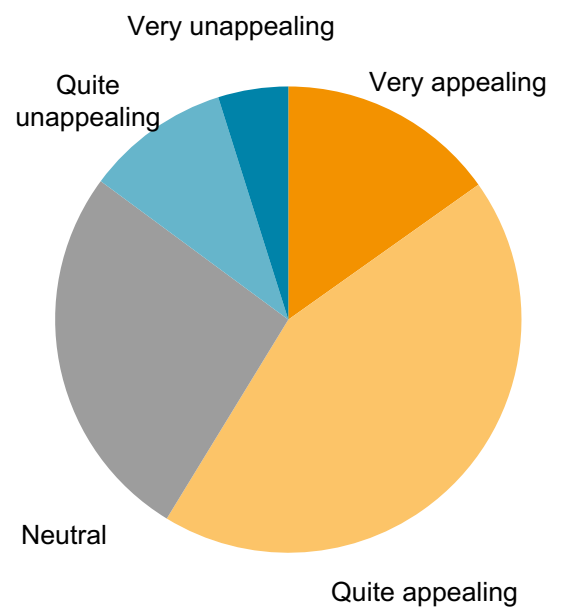
Corporate bonds (e.g. E.ON)

Crowd funding! (e.g. Thermondo)

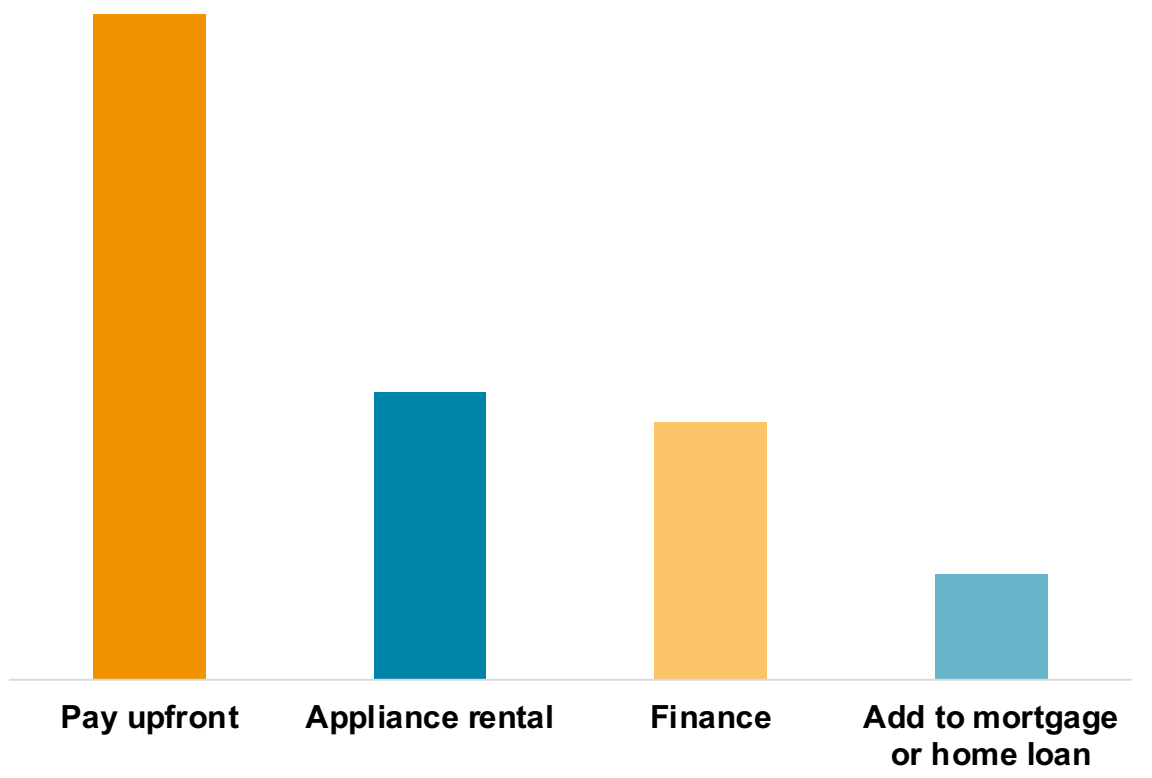


Customer demand will not be a limiting factor for heating service models within the next 10 years

Appeal of a subscription package for heating



Preferred payment method for new heating appliance



More on heat as a service



- **Series 9 Episode 2:** In conversation with Joris Jonker: scaling a business, investment and growth
- **Series 7 Episode 3:** How is Heat as a Service emerging in the European heating market?
- **Series 5 Episode 1:** Electrifying heat in the Netherlands – the role of data and services
- **Series 3, Episode 7:** Home Energy Management: What is it and where's it headed?
- **Series 2, Episode 4:** Transforming homes with super-insulation and high-efficiency heating
- **Series 1, Episode 3:** Heat as a Service – selling comfort to the customer

Servitisation to deploy energy efficiency: As a Service models in the European environment

Speaker

Tomas Sanz De Santa Maria
Project Director at
GreenYellow



EFFICIENCY AS A SERVICE BY GREENYELLOW



GREENYELLOW EN BREF

Unique experience in the energy market for 14 years.

Our ambition : Make the energy transition from our clients successful.



17 Countries & 500 Employees

315 million € sales in 2020

+ de 273 000 T. de CO₂ avoided in 2020



3 actionnaires
robustes



+ 3000
Energy
Performance
Contracts

For **85 M€** in savings per
year for our clients

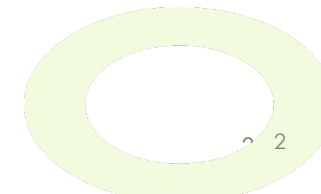
More than **350 solar projects** throughout
the world

+ 1,7 M m²
Of installed
solar panels



+ 1,2 Billion €
invested

on solar and energy
efficiency projects for our
clients



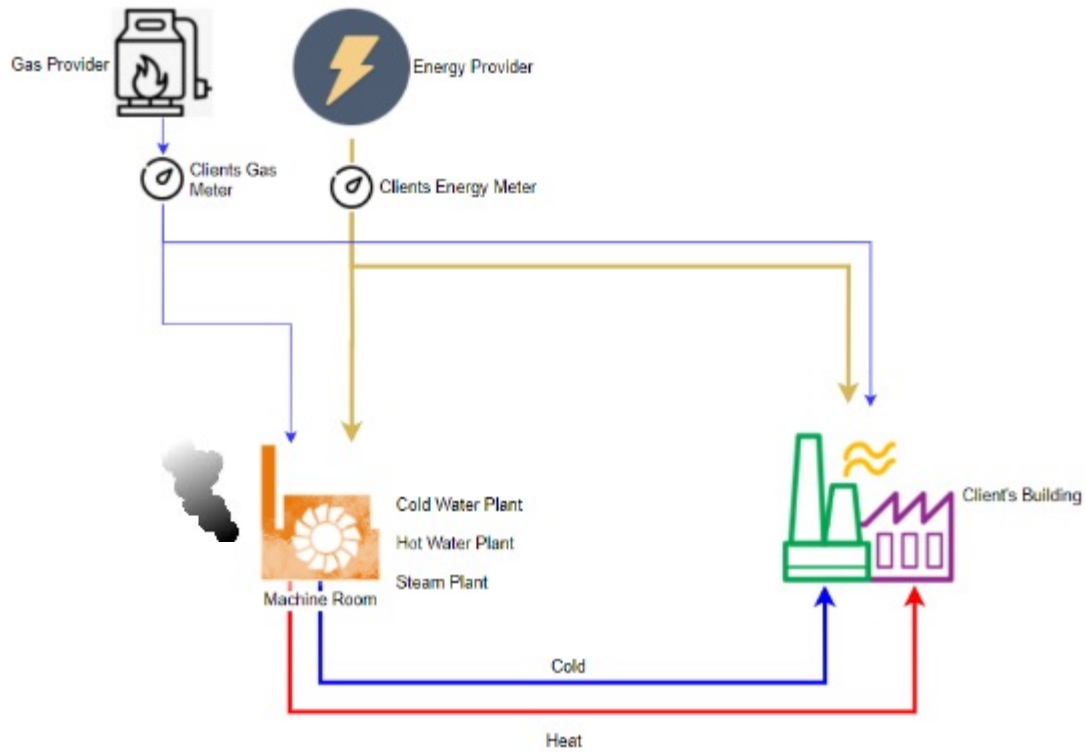
Objective: Minimize energy consumption for our Clients.



Advantages of using EaaS:

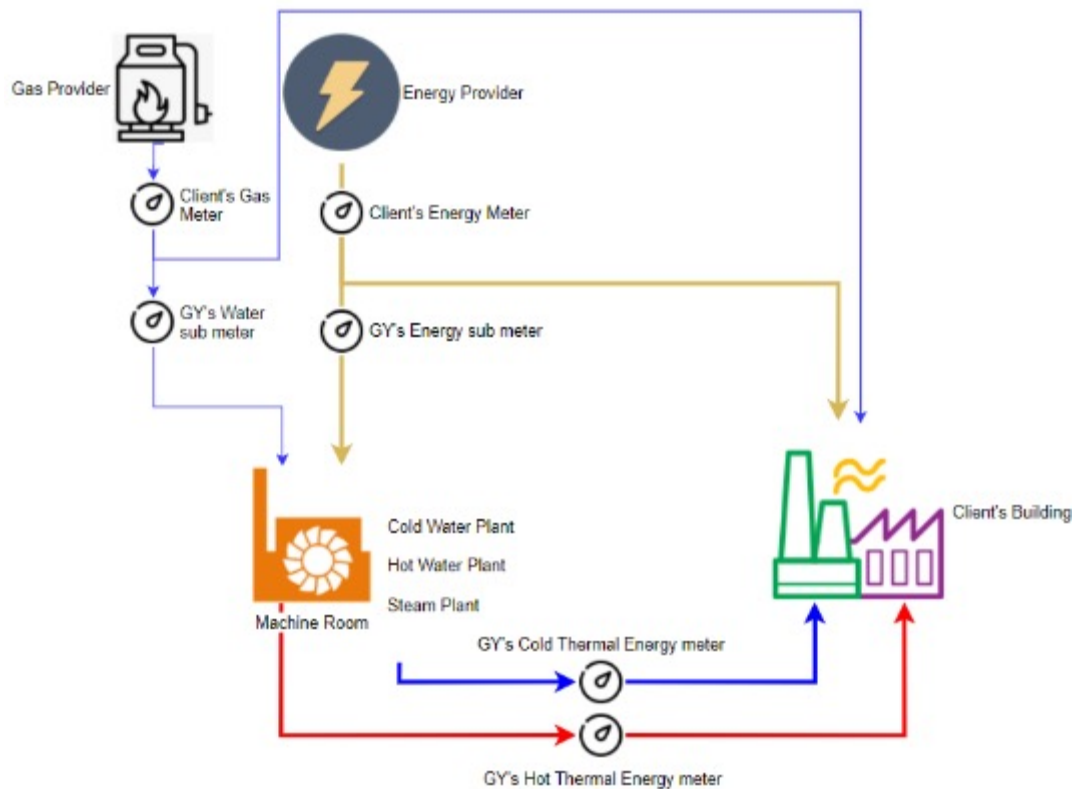
- Avoid initial investment by the client
- Implement the most appropriate technologies available
- Put **incentives** in place to:
 - ✓ Achieve the most amount of savings possible.
 - ✓ Maintain these savings through time!

Situation BEFORE Intervention



- Client pays for gas and electricity
- Client produces and consumes its own cold and heat.
- Inefficient Equipment

Situation AFTER Intervention



- Machines Upgraded/Optimized
- Monitoring installed
- Energy Consumption Reduced

Energy Performance Contract (EPC)

- Engagement on the savings

Cold Service Agreement (CSA) or Heat Service Agreement (HSA)

- Engagement on the cold/hot water plant's efficiency

Cold as a Service (CaaS) / Heat as a Service (Haas)

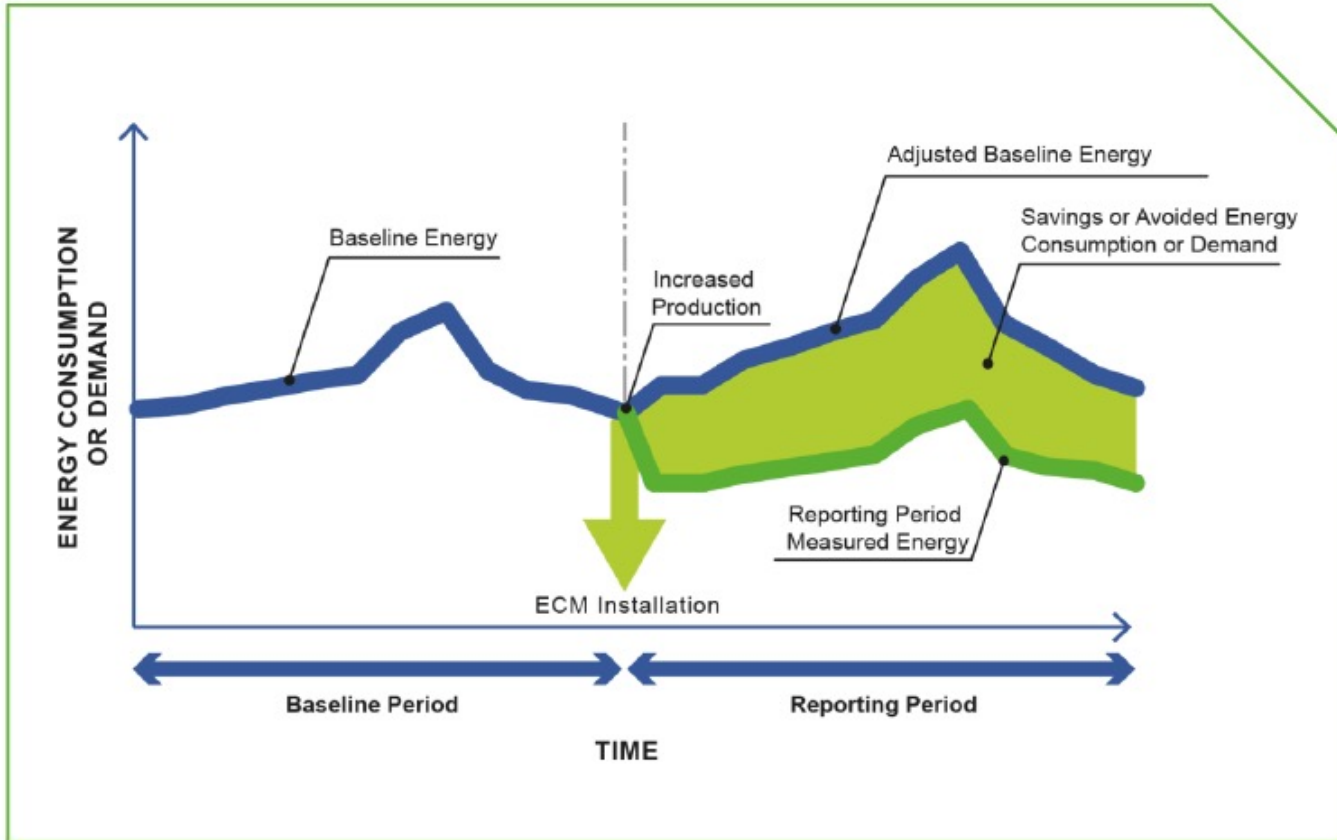
- "Selling" the cold/heat produced

All models, for the same project, end up with the same savings for the client and same invoice for Greenyellow.

OFFERED MODELS



EPC MODEL



Taken from IPMVP

Follow Baseline creation methodology

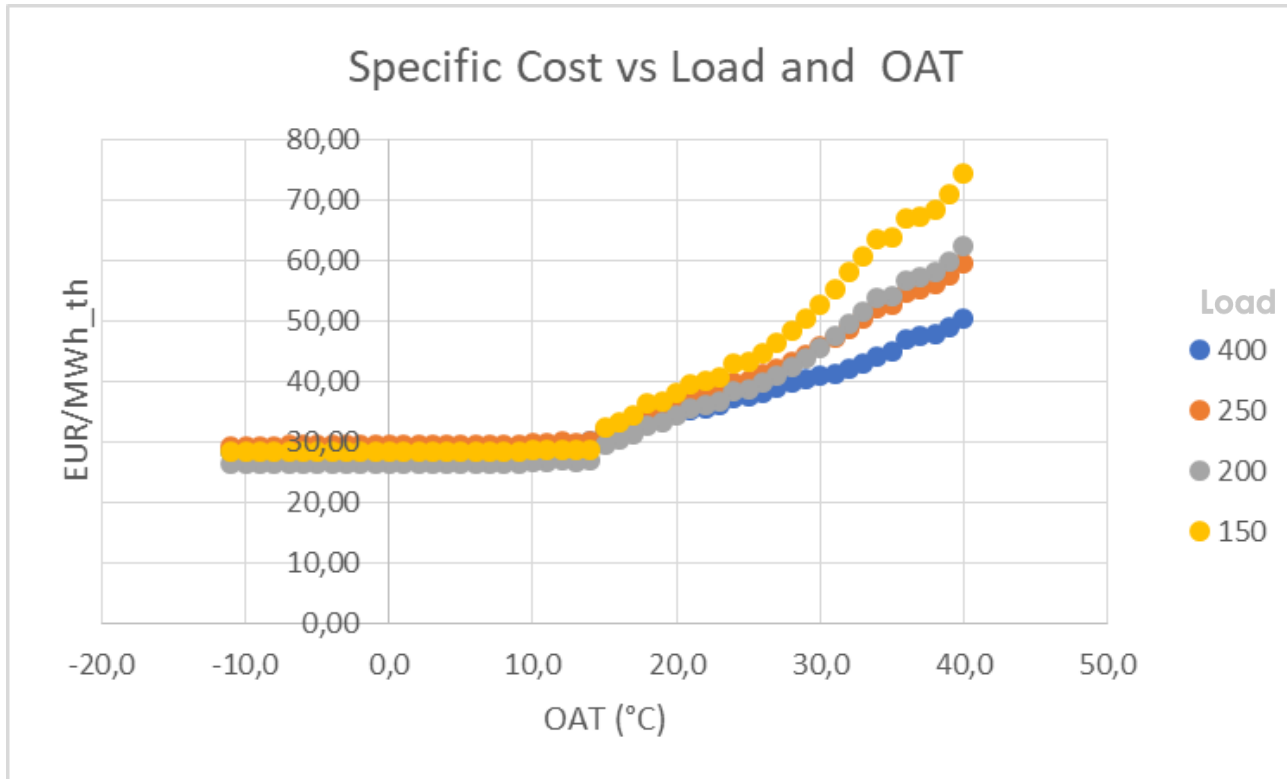
Define relevant variables for creating Baseline Formula

- Degree Days or OAT
- Open/close days
- Production volume/mass
- Internal temperature

Impossible to create this formula for new buildings

Hard to adjust to operation/building modifications

Cold Service Agreement



Modeling the cost/MWh_th after installation to define the goal.

Agree upon an average performance based on modeling

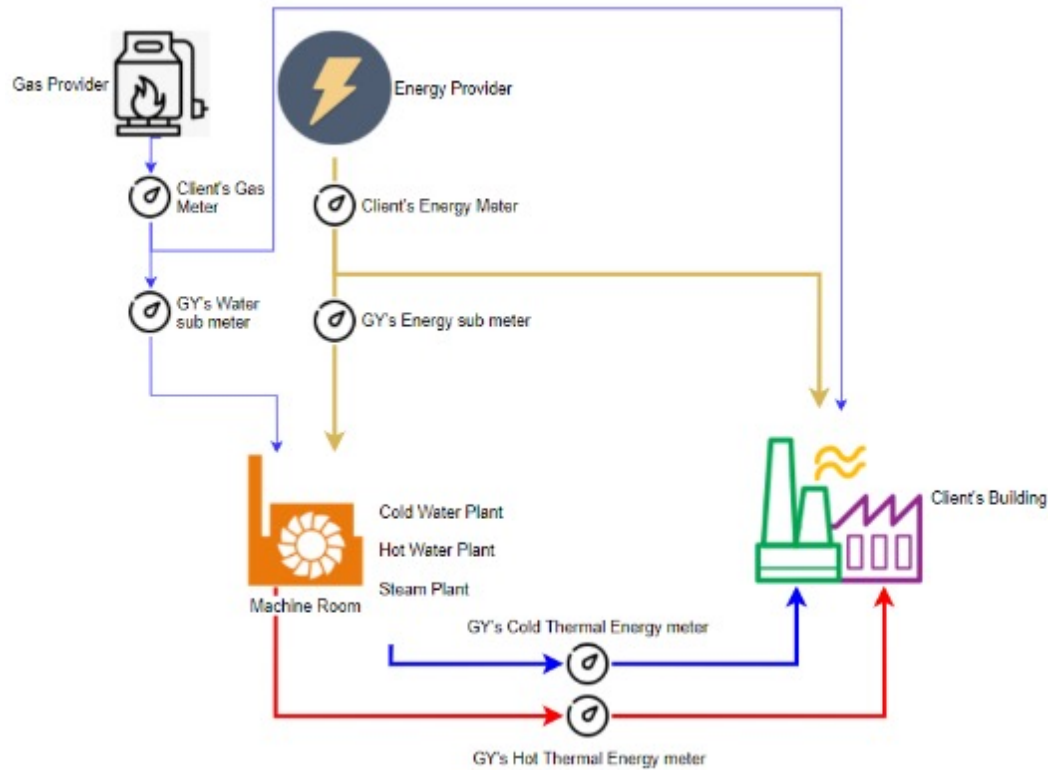
- EUR/MWh_th
- COP

If after installation, measured cost is outside tolerance: penalty.

Other performance penalties possible:

- Failure to achieve temperature
- Operational time

Caas/Haas



$$\text{Invoice} = \text{Fix} + Q_{\text{real}}T_{\text{th}} - C_{\text{real}}T_{\text{e}} - C_{\text{gas}}T_{\text{gas}}$$

- Client pays for utilities to providers

- Client pays for thermal energy produced by greenyellow

- GY discounts cost of utilities

- Incentive for GY to operate as efficiently as possible.

FRANCE



Benefits

Durable reduction in the energy consumption

72

 **Ton of CO₂**
avoided/year

83%

 **Of energy**
savings

Initial investment done by
greenyellow:

100 %

SOLUTIONS

CHILLER REPLACEMENT WITH HEAT RECOVERY

IMPROVED EFFICIENCY AND « FUTURE PROOF » HFO REFRIGERANT
HEAT RECOVERY REPLACING ELECTRIC HEATERS TO KEEP CHOCOLATE
HOT.

INSTALLATION OF BMS TO FOLLOW KPI'S AND GAINS

REDUCTION OF 976 MWh/year

GARANTEED SAVINGS
6 YEAR CONTRACT

ENERGY PERFORMANCE CONTRACTING (EPC)



- **Sector:** Food Industry

Contribuer aux valeurs et à la
politique RSE de l'entreprise

EFFICACITÉ ENERGÉTIQUE

Nous apportons des solutions pour renouveler et optimiser vos services et votre performance énergétique, sans investissement.

Maîtrise de l'ensemble de la chaîne de valeur du projet efficacité énergétique



Etude, conception
et réalisation



Financement de
projet



Suivi et garantie de
performance



Efficacité Énergétique

Nos projets visent la mise en œuvre de solutions énergétiques sur les postes de consommation principaux, afin de favoriser un maximum d'économies.



Conception efficace

Efficacité et design vont de pair pour créer des environnements qui ont un impact sur l'expérience client et l'environnement.



Froid-as-a-service

Avec ce type de contrat nous renouvelons l'ensemble du système de réfrigération, garantissant l'efficacité maximale de l'équipement et vous ne payez que pour l'énergie consommée.

Are you ready to

SHIFT TO PROFITABLE ENERGY ?

Tomas Sanz de Santamaria
tsanz@greenyellow.fr
+33 6 72 55 93 68

Servitisation to deploy energy efficiency: As a Service models in the European environment



Moderators

EaaS Project Leads



Mira Tayah
Expert Circular
Economy at Agoria



Javier Martínez Belotto
Sustainable Finance
Manager at ANESE



Dimitris Karamitsos
Senior Energy Efficient
Business Developer at BASE



Arno Nijrolder
Business Analyst Sustainable
Energy at EIT InnoEnergy

Servitisation to deploy energy efficiency: As a Service models in the European environment



Session 2

Perspectives from Financiers



Letizia Coradeschi
Associate, Energy
Efficiency at SUSI Partners



Ian Robertson
Executive Director,
Invigors EMEA Ltd.



Simon Lutzenberger
Head Sustainable
Finance Solutions CH
at CHG-MERIDIAN

Servitisation to deploy energy efficiency: As a Service models in the European environment

Speaker

Letizia Coradeschi
Associate, Energy
Efficiency at
SUSI Partners

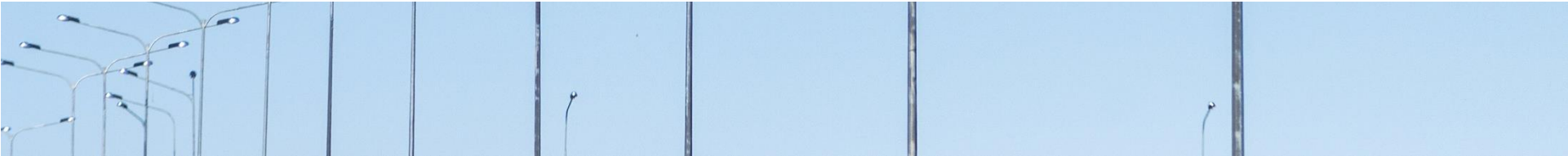




SUSI ENERGY-AS-A-SERVICE MODEL

Customized financing solutions for energy efficiency projects

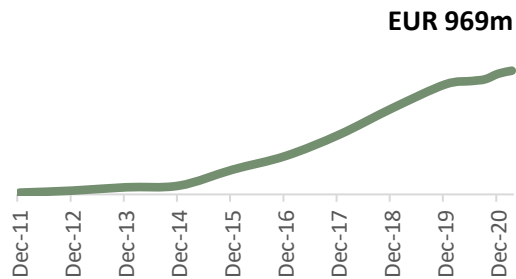
8 July 2021



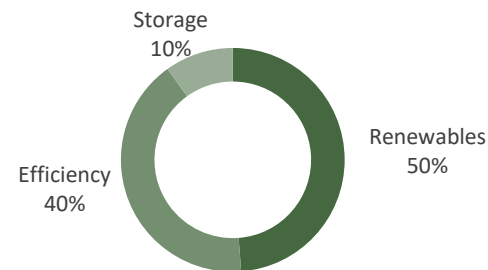
SUSI AT A GLANCE

SUSI Partners AG is a global independent leader in sustainable infrastructure and a one-stop shop investment manager with over EUR 1.5bn of assets under management

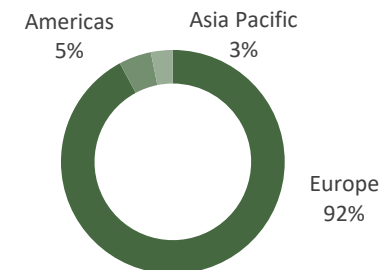
INVESTED TO DATE



INVESTED BY TECHNOLOGY



INVESTED BY REGION



SUSTAINABLE ENERGY INFRASTRUCTURE INVESTMENTS

CLOSED

EQUITY PLATFORM

- **SUSI Renewable Energy Fund I** (EUR 57m), fund exit
- **SUSI Renewable Energy Fund II** (EUR 383m), fully invested
- **SUSI Energy Storage Fund** (EUR 252m), investment phase

CREDIT PLATFORM

- **SUSI Energy Efficiency Fund I** (EUR 235m), fully invested
- **SUSI Energy Efficiency Fund II** (EUR 289m), investment phase

IN FUNDRAISING

SUSI Asia Energy Transition Fund – first close: USD 81m

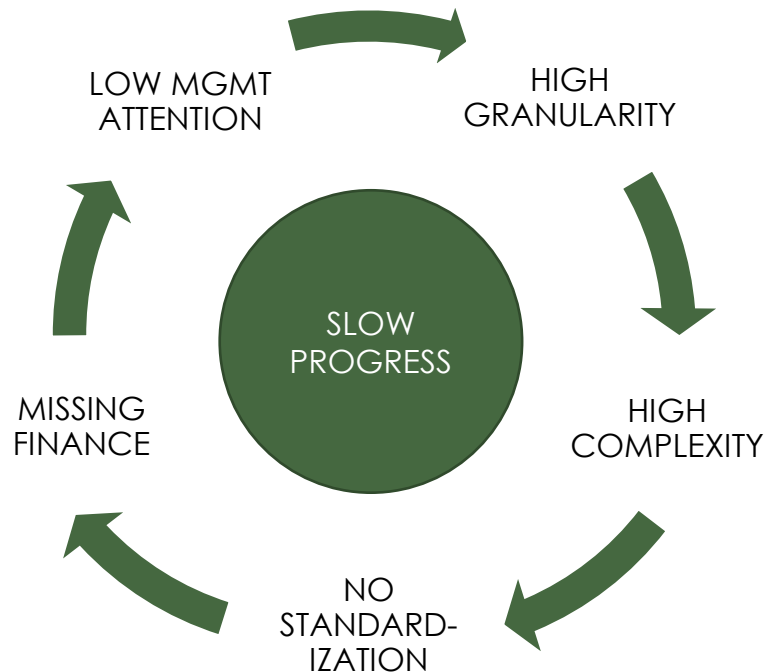
SUSI Energy Transition Fund (OECD) – first close: EUR 297m

Data as of 31 March 2021



THE ENERGY EFFICIENCY DILEMMA

INHERENT (INVESTMENT) OBSTACLES



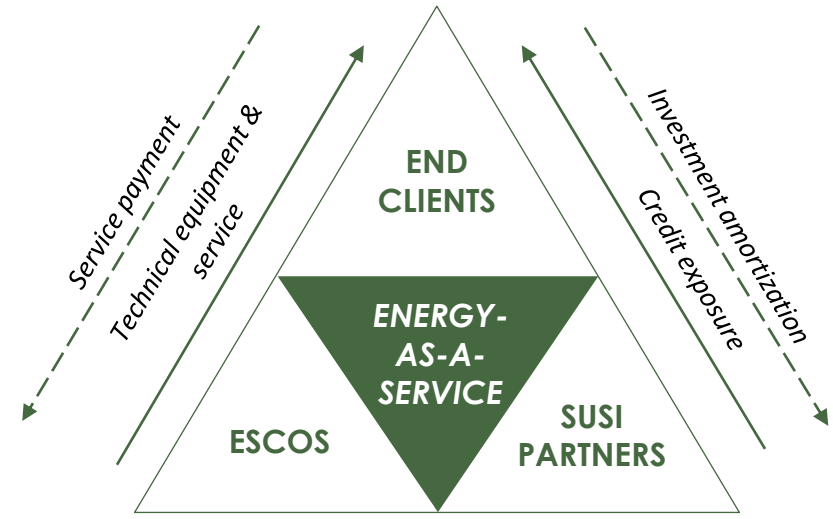
- Despite its well-known advantages in fighting the climate change, the widespread utilization of energy efficiency measures is far lagging behind its potential
- There is not one single specific reason which impedes energy efficiency to progress quicker, but rather a subset of single minor issues which when combined can prevent projects from implementation
- Those preconditions need to be tackled in an orchestrated manner including the lack of available financing for such projects

→ Energy efficiency specific market obstacles can be overcome *among others* by implementing a smart structuring to unlock the financing issue

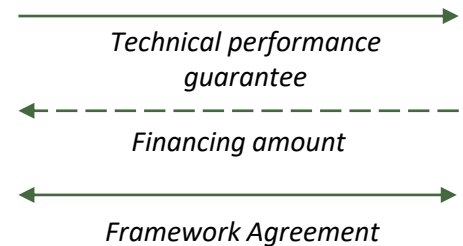


UNLOCKING THE MARKET: SUSI 3-PARTITE-MODEL

- **Outsourcing of non-core activity**
- **Balance sheet and budget-neutral financing solution** for implementation of energy efficiency measures
- Service payments **without balance sheet impact**



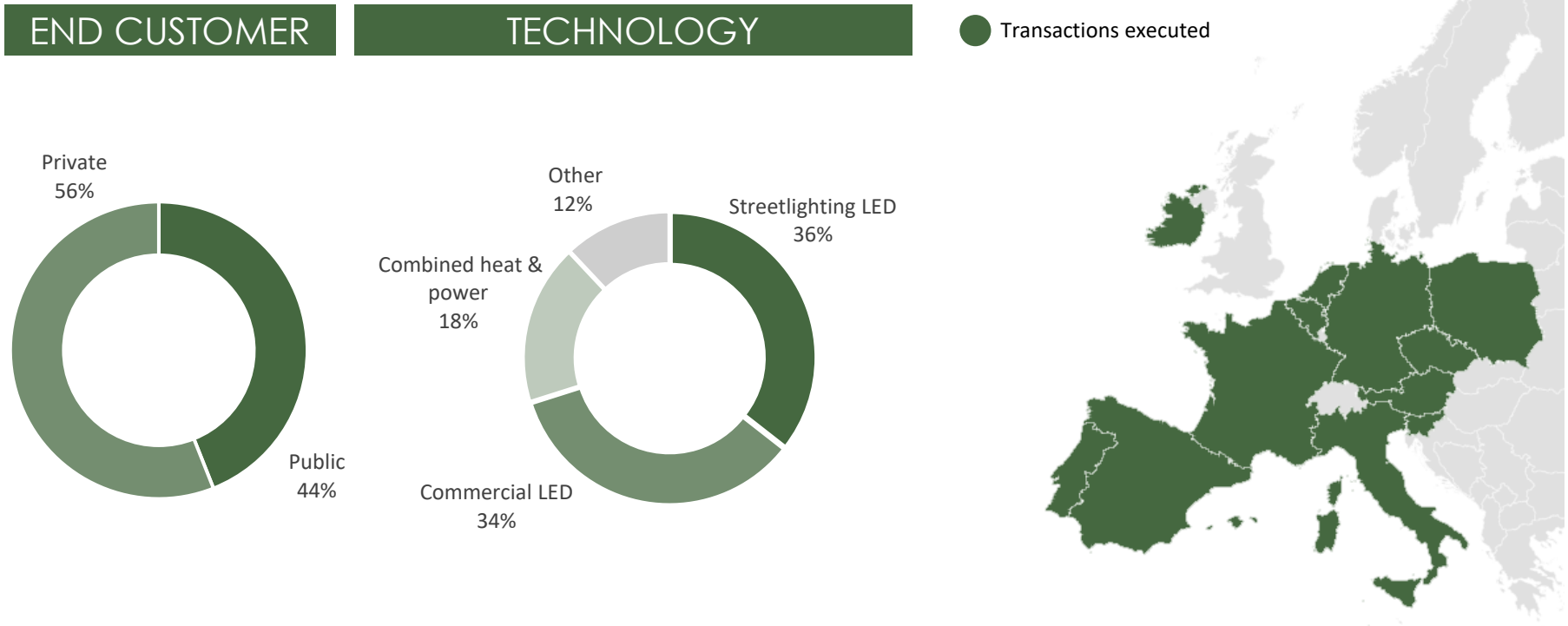
- Focus on **technical implementation**
- Service based business model with corresponding **improvement of balance sheet ratios**
- **Non-recourse financing** solution provided by SEEF



- **100% Capex** financing
- Financial structuring **customized to project requirements**
- Provides **off-balance sheet structures**
- Aggregation of small projects
- **Multi-country** framework feasible



SUSI ENERGY EFFICIENCY FUND I (FULLY INVESTED)

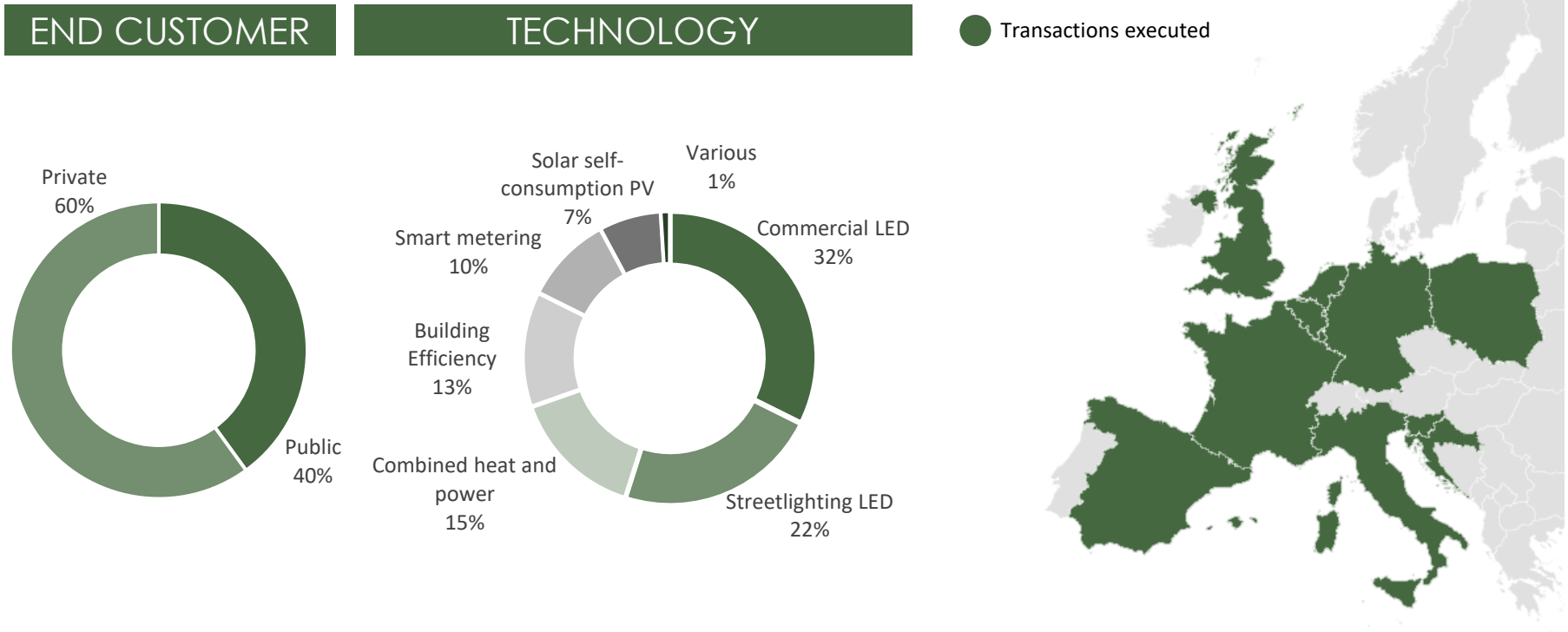


2013	12	840K	€235M	12	40
INCEPTION DATE	YEARS FUND LIFETIME	TONS OF CO ₂ SAVED*	EQUITY INVESTED	DIFFERENT COUNTRIES	CLOSED DEALS

*Based on existing portfolio as of 31 December 2020.



SUSI ENERGY EFFICIENCY FUND II (INVESTING)



2018	15	230K	€289M	13	27
INCEPTION DATE	YEARS FUND LIFETIME	TONS OF CO ₂ SAVED*	TOTAL COMMITMENTS	DIFFERENT COUNTRIES	CLOSED DEALS

*Based on existing portfolio as of 31 December 2020.



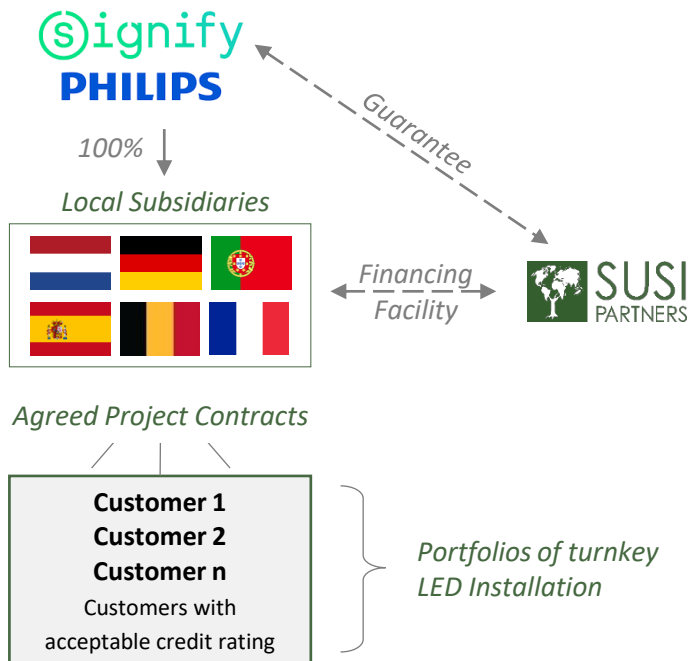
PARTNER OF THE WORLD'S LEADING LIGHT MANUFACTURER BY A GLOBAL FINANCING AGREEMENT

KEY FACTS

VOLUME	▪ Up to EUR 35 million
CO ₂ -SAVINGS	▪ 18,275 Tons of CO ₂ p.a.
TENOR	▪ Between 5 and 10 years

PROJECT OVERVIEW

ESCO	▪ Largest lighting manufacturer with commercial operations worldwide and over 100 years' experience at the forefront of lighting technology.
END CUSTOMERS	▪ Customers range from SMEs to large multinationals across industries, located in seven European jurisdictions.
MEASURES	▪ Lighting-as-a-Service ("LaaS"): full retrofit of existing lighting with energy-saving equipment, enabling remote monitoring and smart maintenance.
FINANCING STRUCTURE	▪ "True Sale of Receivables" structure allows SUSI to purchase a portfolio of receivables that is off-balance sheet for the lighting manufacturer.
ADVANTAGES	<ul style="list-style-type: none"> ▪ Long-term relationship approach with a highly cost and time efficient structure for all involved parties. ▪ Available financing on a recurring basis through a multi-country and multi-currency framework agreement. ▪ The framework allows for repeated sales of receivables whereby single transaction will be automatically eligible for financing if certain pre-agreed parameters are fulfilled. ▪ The agreement also entails the possibility to refinance existing projects if certain pre-agreed parameters are fulfilled.



CONTACT

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Mob: +41 76 316 41 04



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Risks associated with an investment in the Fund include, but are not limited to, operational, technical and counterparty risk. Buying shares or interests in such a Fund carries a high level of risk, and may not be suitable for all investors. Before deciding to review the fund information you should carefully consider your investment objectives, level of experience, and risk appetite. The possibility exists that you could sustain a loss of some or all of your investment and therefore you should not invest money that you cannot afford to lose. You should be aware of all the risks associated with an investment in such a fund, and seek advice from an independent financial advisor if you have any doubts. Infrastructure assets may be subject to operating and technical risks, including the risk of mechanical breakdown, spare parts shortages, failure to perform according to design specifications, strikes, disputes, and other interruptions and other unanticipated events which adversely affect operations. While the fund will seek investments in which creditworthy and appropriately insured third parties bear most of risks, there can be no assurance that any or all risks will be mitigated and that third parties will perform their obligations or that insurance will be available. An operating failure may result in a material adverse effect on the investment in the relevant project. Investment may be affected by deleterious substances and other environmental problems. Furthermore the issuers or instruments on which the underlying funds invest may be or may become subject to unduly burdensome and restrictive regulation affecting commercial freedom and this in turn may have an adverse impact on the value of the funds investment.

Nothing contained herein should be deemed to be a prediction or projection of future performance of any investment or fund. Past performance is not a guide to current or future performance. The value of investments and the income from them can fall as well as rise and is not guaranteed.

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Servitisation to deploy energy efficiency: As a Service models in the European environment

Speaker

Ian Robertson
Executive Director
at Invigors EMEA Ltd.



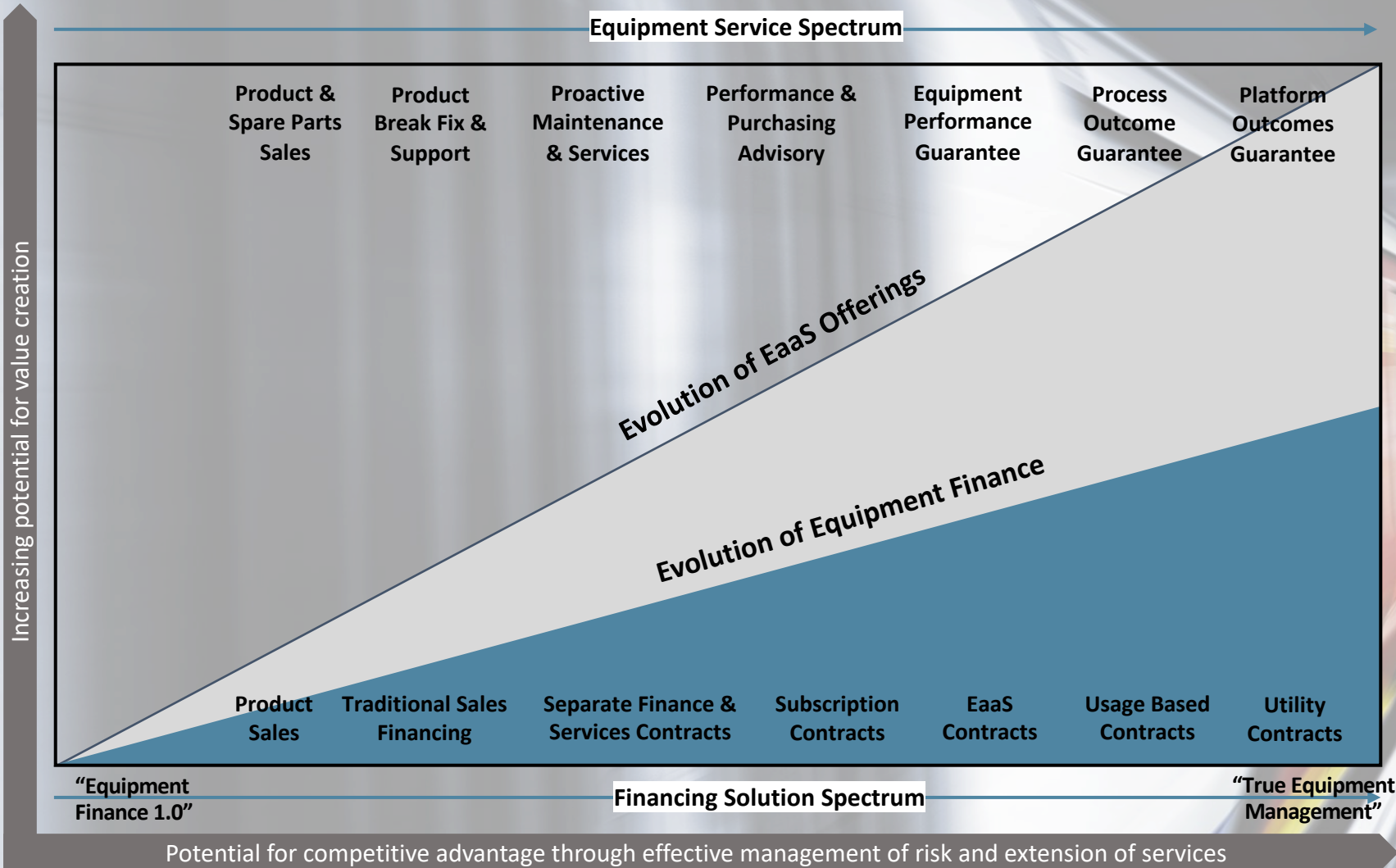


FINANCING ENERGY AS A SERVICE – AN INDEPENDENT ADVISORY'S PERSPECTIVE –

INVIGORS
Part of The Alta Group 

NICK FEASEY & IAN ROBERTSON
EXECUTIVE DIRECTORS

THE JOURNEY TOWARDS EAAS & ITS KEY ENABLERS

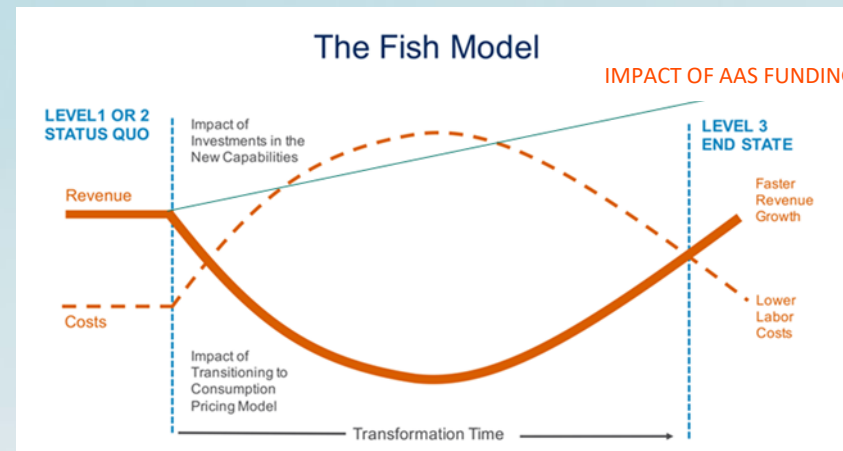


- The provision of services can drive creation of customer value and competitive advantage.
- Customer financing underpins this and enables services provision at scale.
- Both require effective management of the various risks involved.
- Performance Advisory is key as data driven insight (via IoT) points to where value and risks lie.
- Monthly subscription provides a singular services contract, with a focus on outcomes within EaaS.

- Transforms the elements of equipment, service and consumables (along with associated asset depreciation) into a single periodic payment. A fundamental part of the customer value proposition.
- Financing can often present challenges around revenue recognition within an OEM/Distributor.
 - This can impact targets and key metrics.
- It can also reduce the impact on their balance sheets and free up capital for other business purposes.
- Various financing models are available to match with the needs and constraints of the OEM / Distributor.
- New risks associated with EaaS and PPU models need to be assessed, mitigated and managed
 - Either internally or in partnership with 3rd parties.

To reduce the impact on revenue recognition:

- Simplest way is to fund deals through assignment of receivable type structures.
- Helps overcome a key hurdle for product led and revenue focused organisations.
- Enables availability to all customers.



Source: Technology-as-a-Service Playbook 2016 (TSIA), adapted by Invigors EMEA

Ultimately, what makes an asset fundable?

- Risks are quantifiable and there are cost effective mitigants available
- Availability of data
- Quantifiable servicing risk that can be underwritten
- Enforceable financing T's & C's.
- Proven asset class.

THE CIRCULAR ECONOMY – ENABLING & EXPLOITING IT

People

Bearable

Equitable

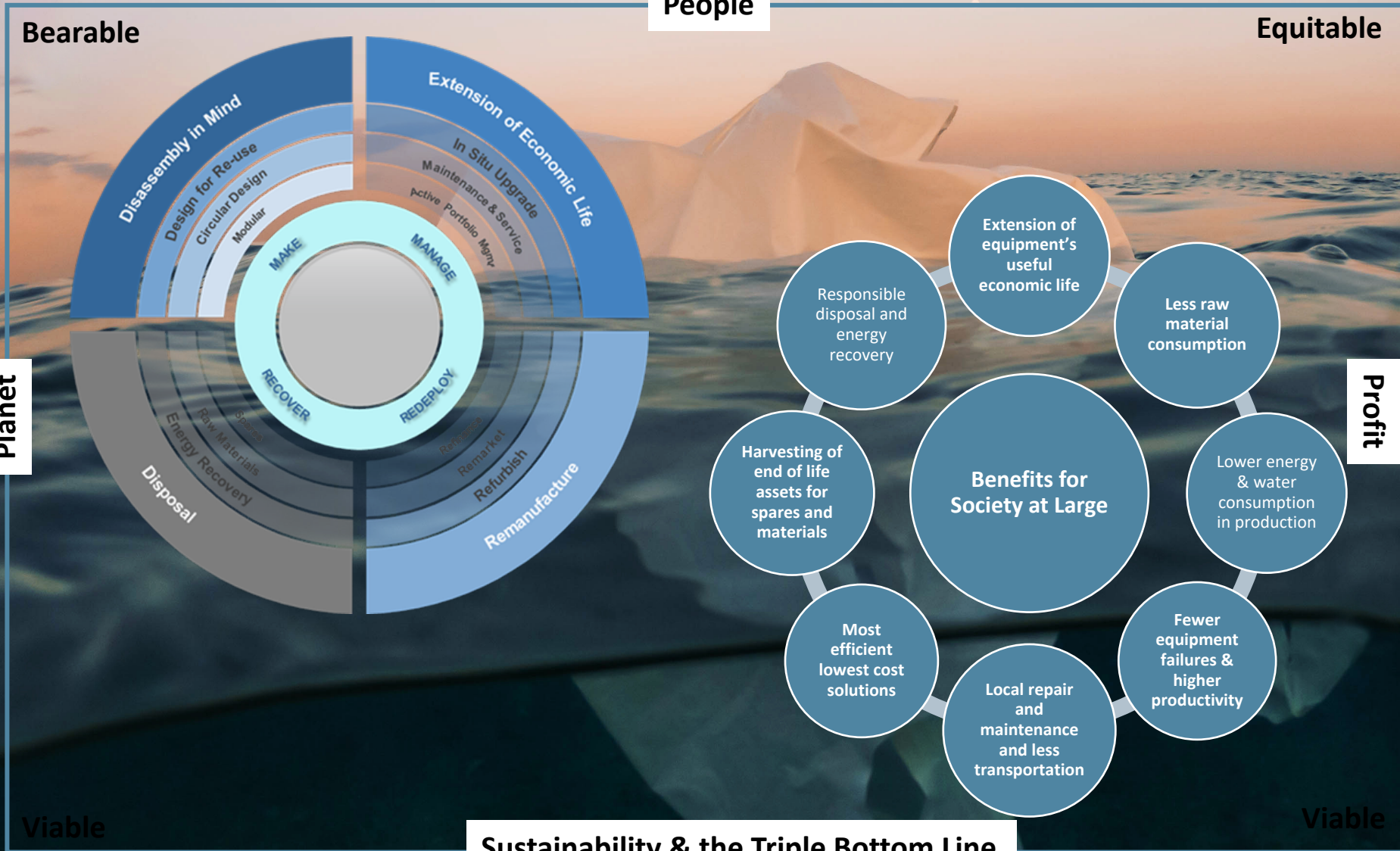
Planet

Profit

Viable

Viable

Sustainability & the Triple Bottom Line



As experienced multi-disciplinary practitioners from the manufacturer and funder communities, Invigors helps determine the strategic drive towards Equipment-as-a-Service, supporting the safe, timely and successful delivery of all its critical components. To enable clients to remain highly relevant, financially resilient and environmentally sustainable.

Experience



Industry
Knowledge



Cross Functional
Expertise



Global
Coverage

Insight



Strategic
Insights



Risk
Management

Impact



Partnering
DNA



Accelerated
Delivery



Rapid
ROI

Independent and networked.

- Able to work solely in the client's interests, independent of any individual funding provider.
- Provide access to an unrivalled choice of potential funding partners and innovative funding structures.

Contacts:

nick.feasey@invigors.com
ian.robertson@invigors.com
tim.pearce@invigors.com

Servitisation to deploy energy efficiency: As a Service models in the European environment

Speaker

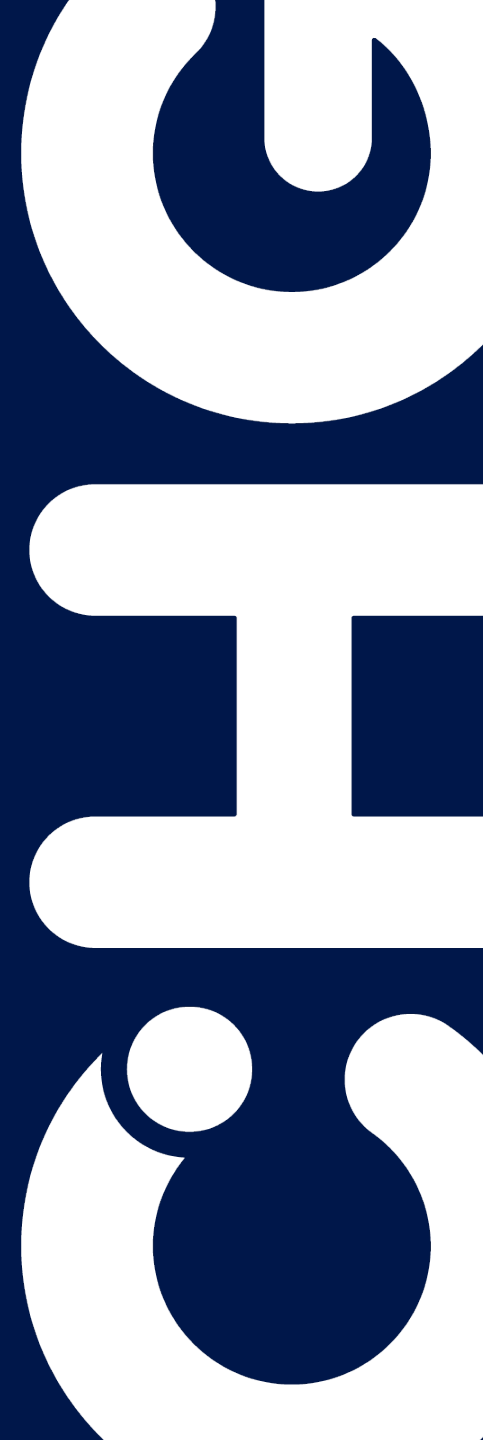
Simon Lutzenberger
Head Sustainable Finance
Solutions Switzerland at
CHG-MERIDIAN



CHG-MERIDIAN SCHWEIZ AG.

COMPANY INTRODUCTION

Simon K. Lutzenberger
Key Account Manager



Simon K. Lutzenberger – Head Sustainable Finance Solutions

creating tailor-made technology usage models with an engineering background and a lot of passion for sustainability

- started career as a network engineer with a focus on WiFi and Security solutions
- more than a decade in various international Sales and Business Development positions at Cisco, HPE/Aruba and PTC/ThingWorx added a keen sense for the special challenges of large international organizations
- extensive experience with large IoT deployments and the challenges they bring, including adopting new business models

In his current role at CHG-MERIDIAN in Baden, Switzerland, Simon is helping customers and partners with the Financial Engineering and other services required to enable sustainable technology usage concepts.

Simon is passionate about sustainability, green technology and Handball.



OUR MISSION STATEMENT

CHG-MERIDIAN develops tailor-made usage concepts and manages efficient technology investments.

We support our customers competently, independently and are easy to do business with.



CHG-MERIDIAN GROUP FACTS



CHG-MERIDIAN has been active worldwide for over 40 years.

The company's headquarter is in Weingarten, Germany.

CHG-MERIDIAN Schweiz AG is located in Baden and operates throughout Switzerland.

LEASE ORIENTATION 2020

1'925 B CHF

880'000 in 2020

Remarketed equipment (assets)



Share of remarketed assets

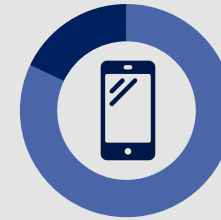
95% of all returned devices at CHG-MERIDIAN are being remarketed

total value of managed technology portfolio

as of 31. December 2020

7.23 B CHF

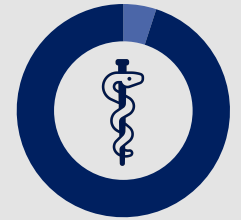
Volume of lease origination broken down by technology sector



82 %
Information Technology



13 %
Industrial Technology



5 %
Medical Technology

over 12'500 customers



27 countries

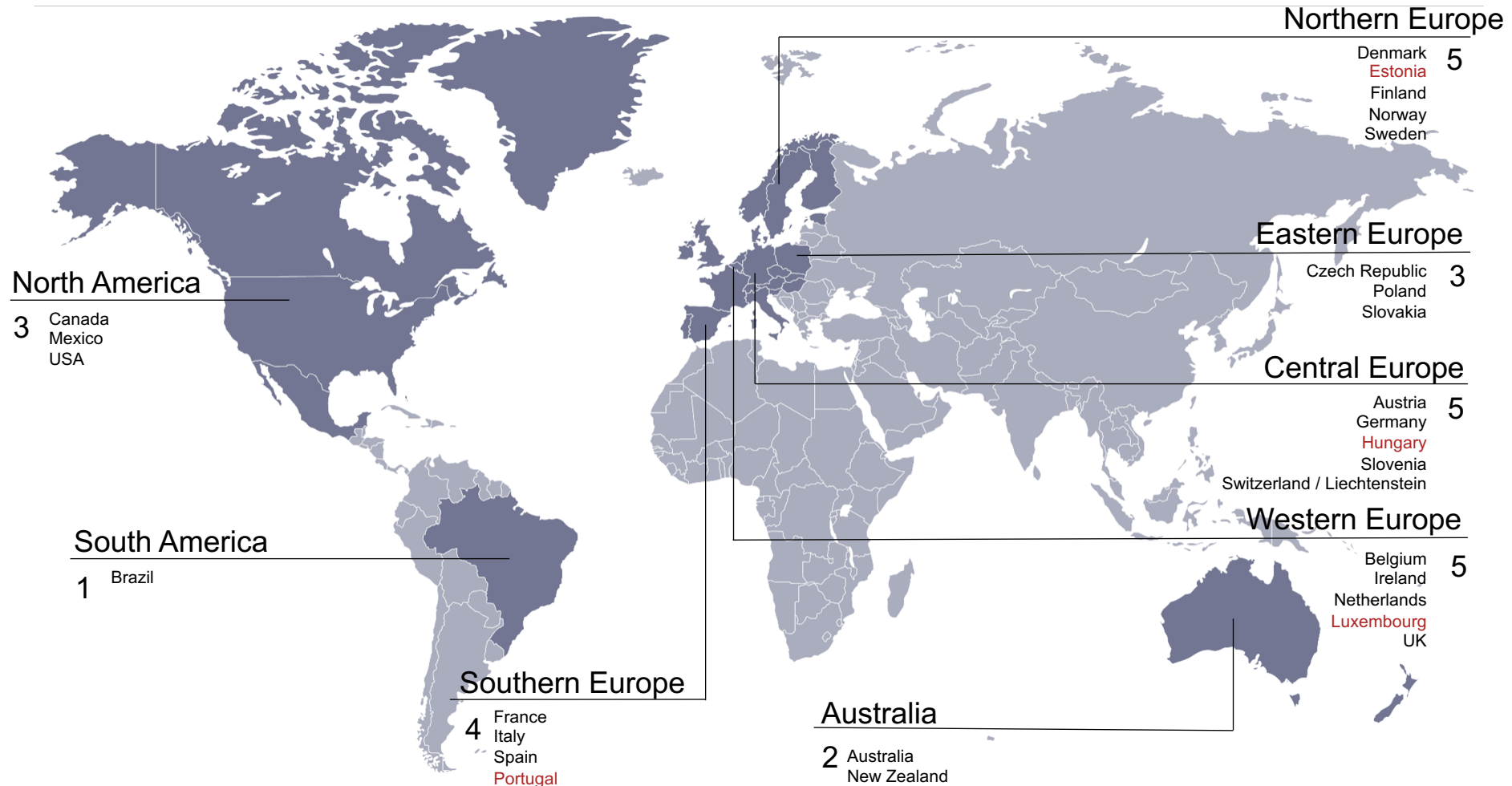
approx. 1,100 employees

> 15'000

TESMA® users
(Technology- and Service-Management-System)

International Coverage CHG-MERIDIAN Group

Including Cross-Border Coverage



OUR TECHNOLOGY AND SERVICE CENTERS IN EUROPE



ISO 9001:2015
ISO/IEC 27001:2013
Management
System



www.tuv.com
ID 9000000398

1 Asset
rollback

2 Certified
data eraSURE®

3 Refurbishment

4 Remarketing

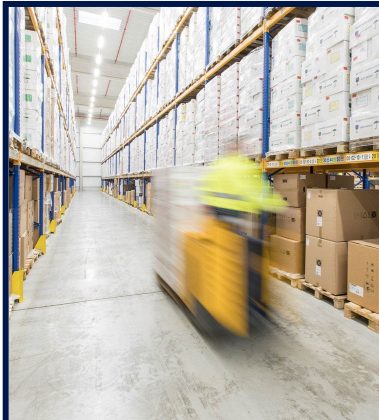
EXAMPLES: INDUSTRIAL



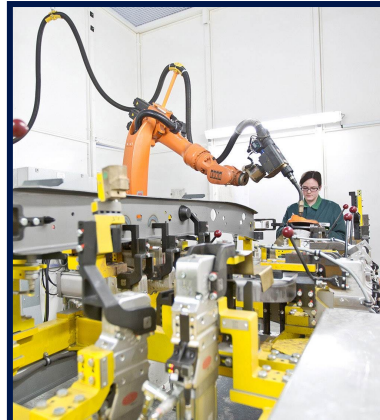
OUR FOCUS FOR INDUSTRIAL TECHNOLOGIES



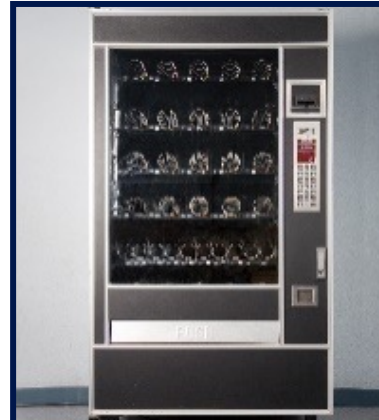
Material handling equipment



Warehouse / logistics



Robots & robot systems



Vending machines



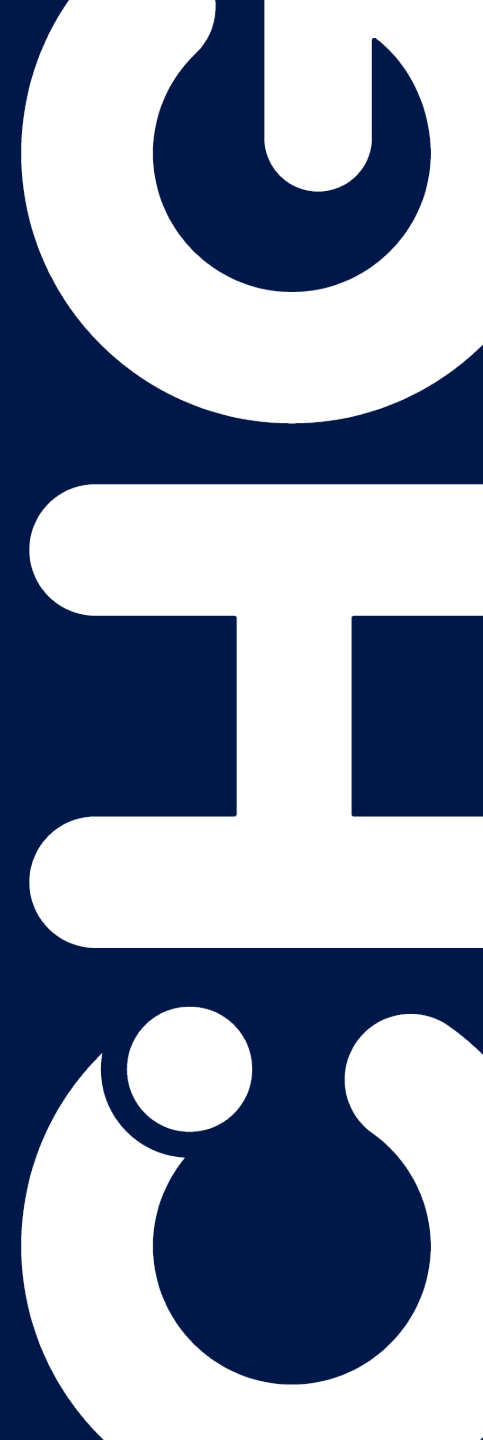
Machines & plants



Carrier

Flexible, efficient, holistic

CHG-MERIDIAN is the leading international provider of leasing solutions for intelligent industrial infrastructure



Servitisation to deploy energy efficiency: As a Service models in the European environment



Key take-aways

Servitisation can

1. ... accelerate the implementation of energy efficiency
2. ... accelerate the digital transformation of industry
3. ... stimulate the Circular Economy
4. ... be a growth market for financial actors



Servitisation to deploy energy efficiency: As a Service models in the European environment



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Business Analyst Sustainable
Energy at EIT InnoEnergy

Servitisation to deploy energy efficiency: As a Service models in the European environment



Thank you

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Dimitris Karamitsos - dimitris.karamitsos@energy-base.org